

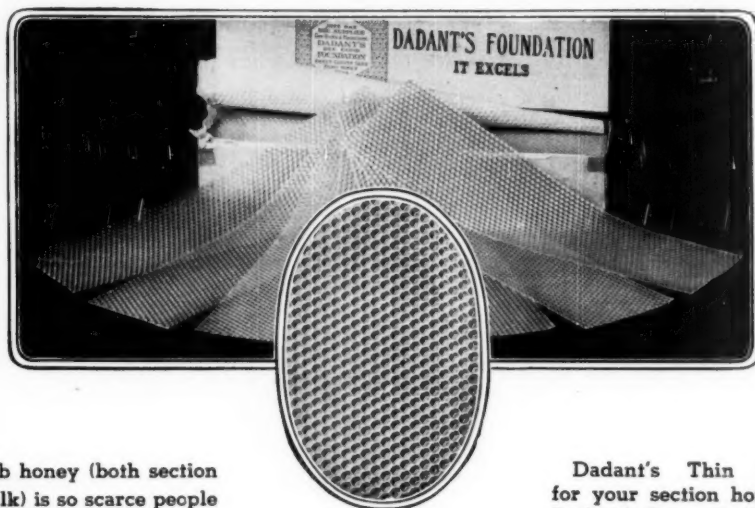
American Bee Journal



JULY, 1950

VOL. 90, NO. 7

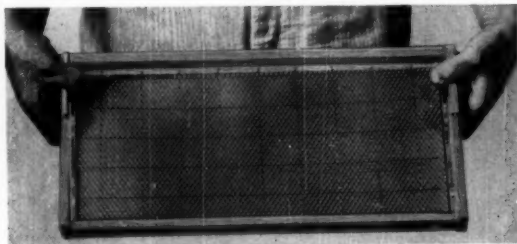
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Lloyd Ravenscraft (Bee Club, Caterpillar Tractor Co., Peoria, Illinois) loads a frame in the extractor.

(Photo from "News and Views.")

Contents

| | |
|---|--------------------|
| Editorial | 311, 314, 321, 323 |
| Raise Some Queens This Summer—H. J. Rahmlow | 308 |
| Brood Rearing Versus Honey Harvesting—Percy H. Wright | 310 |
| The New Insecticides—G. F. Knowlton, W. P. Nye, F. V. Lieberman, F. E. Todd, G. E. Bohart | 312 |
| Vetch Seed Growers Ask For Honey Bees—F. L. Thomas | 315 |
| Discussion—What have you found to be most time-saving short cuts and devices for managing bees? | 316 |
| Advice to Beginners—Frank E. McLaughlin | 317 |
| The Origin and Evolution of the Honey Bee Part III—The Higher Bees—Dr. Melville H. Hatch | 318 |
| A New Use of Honey for Children—D. C. Jarvis, M. D. | 320 |
| Hive Trends in England—David Bone | 322 |
| The Cover Winner | 324 |
| The Break Page Winner | 325 |
| American Honey Institute | 331 |
| All Around the Bee Yard—G. H. Cale | 332 |
| Previews and Events | 333 |
| Postscript—Frank C. Pellett | 334 |
| The Federation | 340 |
| Crop and Market—M. G. Dadant | 341 |

Volume 90, No. 7

July, 1950

The American Bee Journal

HAMILTON, ILLINOIS

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A seven-story colony in the Experiment Station Apiary at Ames, Iowa.

(Photo by O. W. Park)



Ad Index

| | | | |
|------------------------------|---|--------------------------------|-------------------|
| Aeppler Co., C. W. | 329, 341 | Koehnen's Apiaries | 335 |
| Alabama Apiaries | 306 | Lewis Co., G. B. | Inside back cover |
| American Bee Journal | 339 | Little & Moore Apiaries | 306 |
| American Rabbit Journal | 305 | Lotz Co., August | 339 |
| Australasian Beekeeper | 307 | Marshfield Mfg. Co. | 342 |
| Barger's Apiaries | 304 | McConnell & Sons, Herman | 329 |
| Bayou Bee Co. | 306 | McCord Mfg. Co. | 335 |
| Beekeepers Magazine | 327 | McVay, J. F. | 335 |
| Bessonet Bee Co. | 308 | Michigan Bee & Farm Supply Co. | 330 |
| Blue Bonnet Apiaries | 326 | Modern Beekeeping | 306 |
| Bordelon Apiaries, B. J. | 326 | Moore, J. P. | 330 |
| Bordelon Apiaries, E. J. | 327 | Morrison, F. E. | 335 |
| Calvert Apiaries | 326 | Muth Co., F. W. | 326 |
| Canadian Bee Journal | 305 | Nance, Troy | 307 |
| Cellulo Co. | 330 | Neal's Apiaries | 330 |
| Coffey Apiaries | 304 | Neises Co. | 335 |
| Continental Can Co. | 303 | Plant, W. E. | 307 |
| Cuprinol Div. Darworth, Inc. | 330 | Pritchard, Lawrence | 326 |
| Dadant & Sons, Inc. | Inside front cover, 326, 335, 336, 339. | Puett Co. | 342 |
| Davis, Thos. S. | 307 | Rich Honey Farms | 326 |
| Diemer Bee Co. | 307 | Root Co., A. I. | 327, Back cover |
| Dotson's Apiaries | 306 | Root Co. of Iowa, A. I. | 329 |
| Ducote, Alvin J. | 306 | Roseview Gardens & Apiaries | 304 |
| Ellison & Sons, C. G. | 326 | Rossmann & Long | 338 |
| Forehand & Sons, W. J. | 327 | Rusch & Son Co., A. H. | 327 |
| Foster Apiaries | 305 | Shackelford, John S. | 305 |
| Garon Bee Co. | 327 | Shriner's | 307 |
| Gear Apiaries, Winfield | 308 | Smith, Jay | 336 |
| Girardeau Apiaries | 306 | Spears' Apiaries | 327 |
| Gulf Coast Bee Co. | 306 | Standard Rabbit & Pet Journal | 327 |
| Haarmann, Harry M. | 326 | Stoller Honey Farms | 327 |
| Hale Pub. Co. | 304 | Stover Apiaries | 342 |
| Hann, Albert G. | 327 | Sunkist Bee Co. | 327 |
| Harper, Carlus T. | 335 | Superior Honey Co. | 342 |
| Hazel-Atlas Glass Co. | 307 | Taylor Apiaries | 306 |
| Hogg, John C. | 305 | Victor Apiaries | 306 |
| Homan Bros. | 330 | Walker, Eugene | 335 |
| Homan, Farris | 335 | Weaver Apiaries | 304 |
| Honey Sales Co. | 307 | Weaver, Howard | 305 |
| Hummer & Sons, Geo. A. | 306 | West, M. C. | 335 |
| Hutchison Mfg. Co. | 328 | Western Canadian Beekeeper | 335 |
| Irick, F. O. | 326 | White Pine Bee Farm | 330 |
| Jackson Apiaries | 307 | Wicht Apiaries | 330 |
| Jensen's Apiaries | 336 | Winslett, D. T. | 326 |
| Johnson Co., Carl E. | 335 | Wixson, Roscoe F. | 326 |
| Kelley Co., Walter T. | 330, Inside back cover. | Woodman Co., A. G. | 327 |
| | | York Bee Co. | 338 |

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Raise Some Queens

by H. J. Rahmlow



Fig. 1. Swarm box. The bottom is screened with 7 or 8 mesh hardware cloth. Top is bee tight. Strong three-story colony will furnish bees.

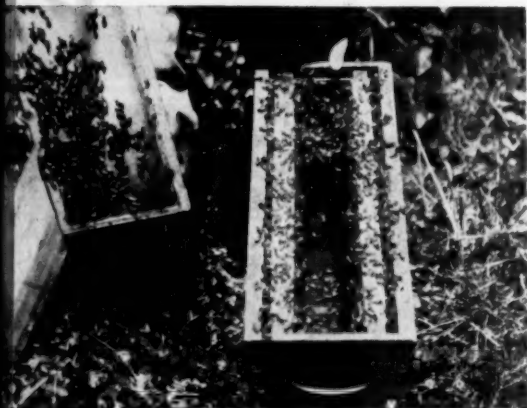


Fig. 2. Swarm box with two frames of honey and pollen; ready for the grafted cells.



Fig. 3. Cell grafting. Prof. Roberts recommended the double graft method.

If you have a colony with a poor or failing queen this fall it will go into winter with a small population. Beekeepers know such colonies aren't worth keeping because they will likely be lost during the winter, or be one of those "dwindling" colonies next spring which never builds up.

Raising a few queens in midsummer is not only a pleasant hobby for the beekeeper but a profitable undertaking as well. A hobby provides us with something interesting to do which will relieve our minds from the tensions of our everyday work and worry. Here then is something interesting and fascinating which may bring you happy moments—but as a hobby, don't go into it on such a scale that it will produce tensions and worries of its own.

Produce Well-Developed Queens

Dr. Wm. C. Roberts, of the Central States Bee Culture Laboratory, Madison, has had years of experience in testing methods of producing good queens. This article describes his method aimed at production of a large proportion of well-developed queens.

The Swarm Box

The swarm box is most satisfactory for starting queen cells, says Dr. Roberts. **Figures 1 and 2** show such a box which will hold four standard frames. The bottom is screened and the top must fit tightly. A telescoping cover is desirable because it doesn't slip sideways when the box is carried around. The box must be bee tight.

In the swarm box the bees will place a liberal supply of royal jelly in each queen cell. When the first larvae are removed and younger larvae placed on this natural food they are given an excellent start toward good development.

The next step is to fill the swarm box with young bees which will take care of the cells given to them. Select a strong, populous queen-right colony as a source of bees. Find the queen, set her aside, and shake bees from **about six combs of brood** into the swarm box. It is best to shake combs when bees are flying actively so the old bees will return to the colony, leaving the young bees which are best for starting cells. Be sure the swarm box is well filled—at least three pounds of bees. Next place two frames containing unsealed honey and pollen into the box with the bees.

Place the queen back into the original colony. If there is any danger of not enough bees being left in this colony to cover the brood, then it was not strong enough and shouldn't have been used.

Figure 2 shows a swarm box with the two frames of honey and pollen and empty spaces for frames of cells which are now to be prepared.

Grafting Cells

Figure 3 shows the next step—cell grafting—which should be started as soon as the swarm box has been prepared as shown in **Figure 2**. The cell bar and cell caps have been prepared in advance. Since this method calls for grafting twice, the first grafting can be done by transferring larvae that are 24 to 48 hours old, from any queen, because they are not going to be allowed to develop anyhow. As many as 60 or 75 cells can be prepared for one swarm box. The bars hold from 15 to 18 cells each. Two bars can be placed in each of two frames as shown in **Figure 4**. Notice that the upper third of the frame is comb which gives the bees good cluster support near the queen cell. The frames are placed in the swarm box between the combs of honey and pollen and left there for 24 hours. Now set the box in a shady place or inside a building, in case the temperature is likely to be below 60 degrees F.

This Summer

*You will find it a pleasant,
profitable hobby*

Cells are Regrafted

The cells remain in the swarm box for 24 hours and are then taken out and the bees returned to the original colony. You will find each cell now well provided with royal jelly placed there by the bees during the past 24 hours. Next **remove all the queen larvae** in the started cells. Avoid disturbing the jelly as much as possible. Now get a frame of larvae from your selected breeder queen and regraft. A new larvae, which should not be more than **12 to 24 hours old**, is placed directly on the royal jelly. **The object in regrafting is to provide the young larvae with a rich supply of food** so they will have a good start and develop into large queens.

The regrafted queen cells are then placed directly into finishing colonies as soon as each bar of cells is regrafted.

The Finishing Colony

The finishing colony is most important in good queen rearing. It should have brood in not less than 10 frames and should have enough bees to fill more than two standard hive bodies.

Dr. Roberts prefers three hive bodies for brood rearing. The upper body is used for finishing the cells; the queen is confined to the lower two bodies by a queen excluder.

Only **one frame** of 15 to 18 started queen cells is given to each finishing colony. One swarm box then will start enough queen cells for three or four good finishing colonies.

The frame containing the bar of queen cells is placed in the center of the upper body with **four frames of young brood**—two on each side of the cells. Such a body is shown in **Figure 5**. The other combs should contain honey and pollen. The frames of brood adjoining the cell bars should be filled principally with young unsealed larvae. Their purpose is to **attract the maximum number of nurse bees** to the vicinity of the queen cells.

The queen cells are actually finished between frames of young worker larvae in a queen-right colony.

If you wish to produce still more queens, another bar of cells can be given the finishing colony by the 5th day. Such a frame, containing a bar of sealed queen cells below and a bar of newly regrafted cells above is shown in **Figure 6**. When this is done, additional frames of unsealed brood should be taken from the brood nest below the excluder and exchanged for the previous frames that will now contain mostly sealed brood.

Mating Nuclei

Figure 7 shows a finished cell pressed into a comb of brood being placed into a mating nucleus. Cells finished in this way will be ready to go into nuclei 10 days after regrafting.

This is how the nuclei are prepared: Place one frame of emerging brood into a standard hive body and add several combs of honey. Shake bees from at least three frames of brood onto these combs of honey being sure enough young bees remain, (which will not fly back home) to cover three frames.

If you wish to requeen some colonies then set the nuclei on top of such colonies with a bee-tight screen or cover between, and the entrance to the rear. When the new queens are laying the old queens below are killed and the two units united.

New colonies can be produced in the same way—excepting that more bees should be shaken into the new hive—bees from at least six combs, and the hive taken to a new location on its own stand. If the new colony is started in midsummer and there is a prolonged honey-flow afterward it may build up into a strong colony and store enough honey for winter.

Wisconsin.

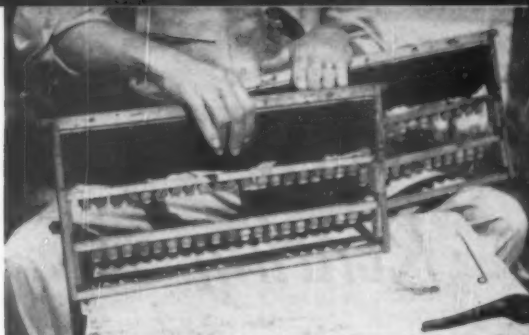


Fig. 4. Two cell bars are used in each of two frames to be placed in the swarm box. Note comb for clustering in upper part of frame. (The pipe isn't standard equipment).

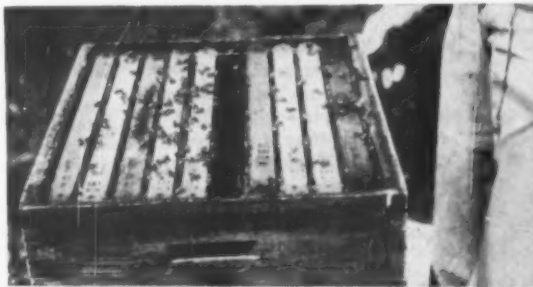


Fig. 5. Strong finishing colony ready to receive a frame of queen cells. Two frames of unsealed brood are placed on each side of the cells, so they develop between frames of young worker larvae.

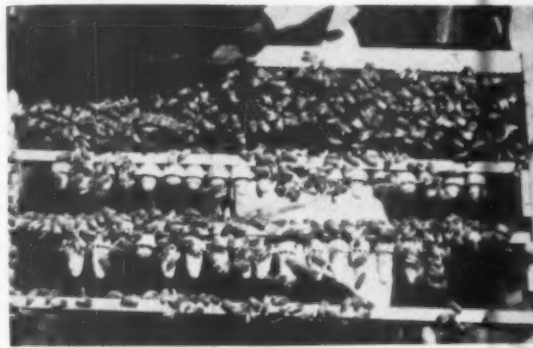


Fig. 6. Cells on lower bar sealed; another bar of regrafted cells (upper bar) may be given on 5th or 6th day.

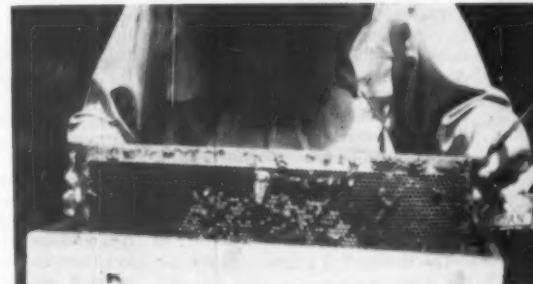


Fig. 7. Cell ready to go into mating nucleus on 11th day after regraft. Cell is pressed into comb. For requeening, nucleus is placed on top of a queen-right colony. A bee-tight division board separates colony and nucleus. Entrance is to rear.

Brood Rearing

versus

Honey Harvesting

by Percy H. Wright

"**B**ROOD rearing," says a beekeeper neighbor of mine, "is the greatest single factor preventing a colony from gathering large crops of honey. Brood rearing and the honey harvest do not go together. The one is the enemy of the other."

This statement is manifestly absurd unless it is understood that brood rearing handicaps honey production only if it occurs during the honey harvest, not BEFORE it. This famous maxim of beekeeping, "Build up FOR the honeyflow, not ON it," is 100 per cent correct, but does not cover the situation as a whole. The beekeeper whose colonies are built up in time and enter the honeyflow period strong (two or more brood chambers full) is liable to dismiss the problem, thinking he has done his full duty. However, brood rearing that results in bee population that is too late for the service of the colony during the honeyflow reduces the labor in the fields even though the total population of the colony is already adequate; even though the activity of the queen is not out of proportion to the needs of the colony if it were to be judged as existing for itself alone; even though the queen, as a matter of fact, may be comparatively inactive.

There are not many honey plants in North America which produce a flow exceeding a month in duration. Now, it takes a good deal more than a month to turn an egg just laid into a worker bee mature enough for the field. This means that very few bees reared during a honeyflow are going to be of any use to the colony in gathering the honey of that flow and of little use at all unless another flow follows the first.

The problem of requeening during the honeyflow is one that has received some attention in beekeeping literature, but it is different enough from the problem of DEQUEENING

that the latter deserves separate consideration. The purpose of requeening may be to provide the colony with a young queen that will not be superseded at a time of year when mating flights are difficult, or to help check swarming, or for other reasons which suggest themselves to every beekeeper.

However, the purpose of DEQUEENING, although it may look to the same state of affairs as requeening does, is primarily to give the colony a rest of nearly a month from the heavy chore of brood rearing, so as to allow it to turn its full energies to the honey harvest, and so as to avoid the production of a vast population of bees that will be too young to help in the harvest and too old to survive the winter. In some areas, dequeening will avoid the production of a heavy population of young bees that can have no other fate but to be gassed when the beekeeper finishes his operation for the year.

The problem of dequeening is that of finding the queen at a time when the hive is built up to a good height, the hive population very great, and the queen, perhaps, nervous. Obviously, the task of finding the queen is reduced if it is done a little sooner than the end of the honeyflow, while there are fewer supers to be lifted and when the queen is sure to be quiet and not seek to hide if disturbed. The problem is to eliminate the queen with a minimum of time and effort.

In my district of northeastern Saskatchewan, where the honeyflow is very definite each year, and where the hive is transformed from three or four chambers on July 15 to six, seven or eight chambers by August 1, it is obvious that dequeening 2 weeks in advance of the date usually recommended (August 1 or soon after) would enormously simplify the difficulties. Our beekeepers should consider whether an earlier date, around

July 15, would not serve the purposes of the hive better than the later date, altogether apart from the factor of greater ease of manipulation.

It is difficult for me to see how eggs laid between July 15 and August 5 can be of any appreciable use to our colonies. The date at which the newly emerged bee actually goes to work in the fields doubtless varies somewhat, but at the utmost one could hardly expect an egg laid July 15 to result in a bee that would be of any appreciable effect in adding to the honey crop for the year before August 15, and on that date the honeyflow is usually 95 per cent finished for the year in our district.

And yet, beekeepers to whom I have made the suggestion of earlier dequeening almost invariably object that it would result in a loss of honey crop on account of the absence of population. Surely this objection is merely the result of lack of thought! The population that is going to be really effective in adding to a honey harvest, most of which is brought in during the latter two weeks of July, must be raised from eggs laid before the first of July.

A few years ago I made a purposeful experiment. A colony that had filled only one chamber by July 15 was dequeened, thus turning every bee out into the fields except those required to care for the brood already in existence within the hive, and perhaps a few youngsters too weak for the harvest. A similar colony was left to its own devices, in order that a comparison could be made. About a month later, or August 15, I examined these two hives again. The one that had been dequeened had two supers filled with honey, and some honey in the brood chamber too, where a new queen was just starting. The one that was left alone had two chambers of brood and pollen with a little honey in the corners, a much larger population

As We See It

WHAT MAKES A HONEYFLOW?—

It often happens that with an abundance of bloom of some major honey plant the beekeeper looks forward with confidence to a honeyflow which never comes. A slight change in weather conditions may cause a heavy flow when none has been apparent, or it may cause the cessation of a flow just as suddenly.

It is very evident that there are some factors in the control of nectar secretion which the beeman has never been able to understand. The late E. W. Alexander, who was famous for big crops of buckwheat honey, stated that the best yields came with cool nights followed by a clear sky and hot sun with little or no wind. Beemen in the

white clover areas generally agree that they get heaviest yields when the weather is warm with plenty of moisture in the soil. Cool nights followed by hot days has often been mentioned as a condition most favorable. This difference between day and night temperatures is especially noticeable in the Dakotas and western Canadian provinces where the big yields of sweet clover honey have been so common.

There is still very much to be learned about nectar secretion since we may have times with all the known conditions apparently favorable and yet see a very light flow. Until we know more about it, the beekeeper will continue to prepare at heavy expense for the crop that may fail.

of bees, and less than thirty pounds of honey in the only super. I did not extract any of it.

The desirability of dequeening any colony, anywhere, shortly after the main honeyflow of the district begins, should be considered by more beekeepers. Only those who have studied their own conditions and know the dates at which honeyflows are to be expected and how reliable they are can decide whether the policy I have suggested is the proper one. They should have some experience with the idea on a small scale at first.

What we need, then, is lots of brood rearing in early June, smaller amounts in the first half of July, and none at all from then on—unless the colony is to be wintered over. In the latter event, egg laying should be resumed about August 15, which is exactly the date that the new queen will be beginning to produce nicely if dequeening is practiced on July 15.

I am theorizing on the basis of the dates of the average honeyflow in northern Saskatchewan, and beekeepers in more southern areas will have to translate the figures named to those which their own experience indicates as valid for their own conditions. In all districts where the honeyflow lasts about six weeks the colony should have no queen to lay eggs after about a third of the honeyflow is over.

The point is also, that if dequeening

is undertaken early, it will be a less expensive task in time and patience—and money. Even at the earliest date that the beekeeper would consider practicable the time spent in dequeening may check other operations in the apiary such as supering and swarm control, which cannot be delayed.

The only really promising suggestion that occurs is not to try to find the queen at all, at the time of examination, but to remove the part of the brood chamber where the queen is most likely to be found—that is, the part of the brood chamber where the recent eggs are most numerous, and set it aside as a hive of its own at a distance of ten yards or so with the entrance turned in the other direction. The bees will take it as a new hive and all the field bees will return to the parent hive. The operator must be careful of course that some brood frames containing recent eggs were left in the parent hive, in order to provide for the building of queen cells, and to keep the colony content enough to maintain its morale and rate of work.

A few days later, after the field bees are all out of the hive set off, it should be easier to find the queen, kill her, and unite the chamber again with the parent or use it for increase. Even in the rare cases when an examination of this chamber reveals queen cells, telling the operator that the old queen remained in the parent hive, it should be easier to open the

parent hive again and find the queen in a brood chamber so much reduced.

There are alternative methods of reducing brood rearing during the honeyflow. The most common, one that is already widely practiced, is to unite colonies before the beginning of the main flow. This results in the loss of one queen and the reduction of the proportion of brood rearing to available population to half of what it was before. It is not so drastic a procedure as that suggested above, but if the colonies are weak, it enables the beekeeper to extract many times more honey than if he had allowed the two colonies to build up ON the honeyflow.

If the beekeeper does not want his colonies to be reduced in number permanently, it should be possible to set aside the queen and a few frames from one of the two colonies, and unite only the field force and the remaining brood with the other colony. Or, by relocation, it should be possible to unite the field force only of the one with the other.

I do not know how much of the area of North America produces brood which serves no purpose, but would suppose it to be considerable. In any event, I am not trying to lay down any rules for beekeepers whose conditions I do not know in any detail, but merely trying to suggest a more or less new train of thought.

Saskatchewan.

The New Insecticides*

Their Effect on Honey Bees When Applied to Blossoming Alfalfa

by G. F. Knowlton, W. P. Nye, F. V. Lieberman, F. E. Todd, G. E. Bohart**

DISCOVERY of the remarkable insect-killing powers of DDT immediately created an "insecticide age." Soon other new and powerful insecticides were developed and marketed. The use of DDT and these newer chemicals was widely encouraged before there had been sufficient opportunity for research workers to learn much about their limitations. Entomologists were particularly alarmed that these spectacular insecticides in commercial use might destroy excessive numbers of beneficial insects. Insofar as bees are concerned this alarm was clearly warranted.

To many crops of fruit and seed, bees are the most important beneficial insects. Alfalfa seed is one of

these crops. It is completely dependent upon either honey bees or certain native bees for the cross-pollination essential to profitable seed setting. Growers of alfalfa seed should therefore be vitally concerned in protecting the bees which visit the alfalfa flowers.

All insecticides can kill bees. They must therefore be used wisely at all times, and special effort must be made to avoid the application of dusts or sprays during either day or night to plants in bloom. Research has shown that usually harmful insects can be adequately controlled by applying insecticides before the alfalfa blooms. This fact must be accepted as the first rule for chemically controlling insects in seed

alfalfa. Control measures that have been recommended to Utah seed growers conform to this principle.

Occasionally, however, an insecticide application may be necessary after the field has come into flower. High reinfestation by lygus may occur, this condition usually being associated with growing of seed on first crop alfalfa. Unanticipated grasshopper infestation may develop. Armyworms may appear. Therefore, there is demand for insecticides that will give adequate control of harmful insects after plants have reached the

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W. P. Nye, one of the authors, counting bees in a sample square yard.



Recommendations For Use of Insecticides On Seed Alfalfa

1. Lygus bugs. When alfalfa is in bud, apply 20 pounds of 10 per cent DDT dust per acre or 1.5 pounds of actual DDT per acre as a spray. When full recommended dosage is used, second treatment will usually be unnecessary. When reinfestation warrants a second treatment, apply 20 pounds of 10 per cent toxaphene dust per acre or 1.5 pounds of actual toxaphene per acre as a spray. Apply this treatment 3 to 4 weeks after the DDT treatment and after 7 P. M. or before 7 A. M. when bees are not visiting the blossoms.
2. Alfalfa weevil. The control given for lygus is usually adequate for weevil. Growers having difficulty in controlling weevil by that method alone can apply 1.5 pounds of actual chlordane per acre as a water-emulsion spray when the first-crop shoots are 1 inch long.
3. Grasshoppers. When the plants are blooming, use only toxaphene at the rates given for lygus control in blooming alfalfa. Before the plants bloom either toxaphene or chlordane may be used.
4. Aphids, thrips, leafhoppers, and armyworms. These less important insects are usually adequately controlled by the DDT application recommended for lygus.
5. Do not feed chaff from crops treated with DDT, chlordane, or toxaphene to dairy animals, to meat animals being fattened for slaughter, or to poultry.



Duster used in experiments.

bloom stage but, at the same time, will not cause economic damage to bees. During the past three years a series of experiments has been conducted in Utah in a search for such insecticides. One has been found that promises to fulfill many of the needs for insect control in flowering alfalfa.

Tests on New Insecticides

Results of numerous tests that have been made against honey bees are summarized in the accompanying table. Included in the experiments were DDT, toxaphene, chlordane, methoxychlor, parathion, lindane, benzene hexachloride, aldrin, and dieldrin. The latter two insecticides have been developed only recently, and they are not yet on the commercial market. All of the others are already familiar items of the insecticide industry, and each now serves useful purposes in the control of certain insects. A study of the table will indicate that some killing of bees may be expected when any of these insecticides is applied to alfalfa that is in flower. Furthermore, all but two of the insecticides tested appear to be too destructive to bees for

use on plants in bloom. The two exceptions are methoxychlor and toxaphene. However, it must be clearly understood that the favorable results with these two insecticides were obtained by applying the chemicals during the period when few or no bees were visiting the flowers. In Utah, this means between the hours of 7 P. M. and 7 A. M. Applications in broad daylight must always be avoided. The mortality caused by the applications listed in the table would be much higher in every case if they had been made when the bees were visiting blossoms in the field.

Many growers have tried to observe the effects of these new insecticides on bees. Some have reported that bees were killed. Others haven't been able to find dead bees. Perhaps, then, it would be helpful to explain how the mortalities reported in the table were measured.

In most cases, fields selected for the experiments were out of flight range of bees from commercial apiaries. This fact assured us that most of the bees visiting the experimental field were from our own hives. The test colonies were placed at the edge of the experimental field a few days before

the first application. Locating the test hives close to the alfalfa to be treated made it possible for most of the affected bees that did not die in the field to reach the hives before being overcome. Theoretically, then, most of the bees killed by the insecticide would either die in the field or at the hives. A reasonable estimate of the number killed could therefore be made by counting the number that died at these two places. The complete kill could never be determined since some of the affected bees would fly astray and die. Also, there is no way of learning how many dead bees might be removed by rodents or scavenger insects before our counts were made.

Toxaphene Only Insecticide Consistently Low in Toxicity

Whereas most of these tests were made on a small scale that involved only 2 to 3 acres of alfalfa in bloom, several trials of toxaphene made on large acreages achieved similar results. Large-scale trials of toxaphene were made since it was the only insecticide tested that was consistently low in toxicity to bees and also was useful in controlling harmful insects infesting alfalfa in bloom.

Toxaphene provides adequate control of lygus when such control in flowering alfalfa is advisable, provided the proper application of DDT has been made at the right time before the flowering period. It will also give excellent control of grasshoppers at recommended dosages and will control the yellow-striped armyworm, which occasionally infests alfalfa seed fields in bloom. Toxaphene, then, is generally useful to alfalfa seed growers of Utah, and is sufficiently harmless to honey bees for use when alfalfa is blooming, provided applications are made after 7 P. M. or before 7 A. M. Tests of the effect of toxaphene on wild bees are being conducted. Until these are completed it is reasonable to suppose that the above statements concerning toxaphene and honey bees will also apply to wild bees.

Methoxychlor in the single test made did not kill a detectable number of bees. Unfortunately, this insecticide appears to have no useful purpose for control of insects in blooming alfalfa.

In one test as a spray and at a low dosage DDT gave a favorable result, killing only 3.5 per cent of the bees. Further studies may show that DDT can be safely used as a low-dosage spray. However, a factor such as increase of spider mite populations when DDT is used more than once on a given crop may prohibit even

low-dosage sprays of this insecticide during bloom. Incidentally, DDT usually repels bees for several days, and kills by this material would probably be much higher without this repellency.

Chlordane has shown great variability in our tests. If this variability can be explained by differences in the material, it might also have a place in controlling insects in blooming alfalfa. High kills by chlordane were obtained in 1947 and 1948 but not in 1949. Further studies of this material are justified.

At present, lindane, benzene hexachloride, parathion, aldrin, and dieldrin appear to be too toxic to bees to warrant additional testing for use on seed alfalfa in bloom. Dieldrin is particularly toxic. Note that in this instance the estimate of dead bees exceeded the estimate of bees visiting the field by 7 per cent. It is known that a few other experimental hives were within flight range of this field. Some of the dead bees found in the treated acreage undoubtedly came from these other colonies.

Table 1. Mortality of honey bees produced by various insecticides when applied * to fields of alfalfa in bloom, Logan, Utah, 1947-49

| Insecticide applied as a spray | | | Insecticide applied as a dust | | |
|--------------------------------|-----------------------------|-------------|-------------------------------|-----------------------------|-------------|
| Name | Dosage of active ingredient | Bees killed | Name | Dosage of active ingredient | Bees killed |
| | lbs. per acre | per cent | | lbs. per acre | per cent |
| Toxaphene | 2.3 | 0.0 | Toxaphene | 1.9 | 8.0 |
| | 2.8 | 1.7 | | 2.3 | 0.0 |
| | | | | 2.3 | 3.6 |
| | | | | 2.4 | 0.0 |
| | | | | 2.8 | 2.0 |
| | | | | 3.6 | 1.6 |
| Methoxychlor | 1.5 | 0.0 | | | |
| DDT | 0.44 | 3.5 | DDT | 0.48 | 18.7 |
| | | | | 0.9 | 28.0 |
| Chlordane | 1.0 | 10.0 | Chlordane | 1.0 | 1.3 |
| | 1.25 | 6.4 | | 1.0 | 3.0 |
| | | | | 1.1 | 23.0 |
| | | | | 2.8 | 48.0 |
| Lindane | 0.43 | 17.3 | Benzene hexachloride | 3.2** | 19.2 |
| Aldrin | 0.53 | 19.0 | | | |
| Dieldrin | 0.56 | 107.1 | Parathion | 0.23 | 40.0 |
| | | | | 0.58 | 32.5 |

* Applications were made during hours when bees were not in the fields.

** This dust contained 0.32 lbs. of gamma isomer per acre; lindane is 99 per cent gamma isomer.

As We See It

THE HONEY PEDDLER—In most cases the beekeeper of fifty years ago was also a honey salesman who retailed his output. In many neighborhoods he went from door to door as did the market gardener and fruit grower of that day. More recently the trend has been toward larger outfits with sale in bulk to wholesale distributors. Retail selling is distasteful to many and the opportunity to dispose of the crop from a larger number of colonies at a lower price per pound proved quite satisfactory as long as returns were profitable.

Of late wholesale prices have dropped faster than production costs and many producers find themselves in difficulties. Some are returning to the former practice of re-

tailing their honey. Those who retail at wholesale prices make no gain except added labor. When the legitimate profits of packing and selling are added it is possible to recover a measure of former prosperity.

A considerable number of beekeepers who are building their own markets report that they have thus been able to overcome the handicap of high production costs. Personal solicitation by the producer does have a stimulating effect on the market since many a housewife will buy honey brought to her door who would not think to look for it at the store. Only a small percentage of Americans regard honey as a staple item for their tables. More honey peddlers like those of grandfather's day would be very helpful in creating public interest in honey.

Vetch Seed Growers

by F. L. Thomas,
State Entomologist

Ask For Honey Bees*

KAUFMAN COUNTY, Texas, claims to be the "vetch seed capital of the world." Since the distinction of being a very heavy vetch seed producing county has been enjoyed the past few years, with acreage still expanding, and since the people of the county are typical Texans, it would be news if they claimed a less important position. The interest and pride in vetch finds expression also in the annual Vetch Festival which comes in May.

On February 7, 1950, a meeting of vetch growers and beekeepers called by the Kaufman County Agent, Reagan Brown, was held at Terrell, the largest city in the county. F. G. Eppler, president of the Kaufman County Beekeepers Association, presided. The meeting was unique from the beekeepers' viewpoint and also in the annals of Texas agriculture. There were more vetch growers than beekeepers among the 250 who attended. The beekeepers came from seven counties of Texas and also from Oklahoma. Representatives from the Soil Conservation Service were present including Dr. Phillip Allen who took part in the program.

Local authorities stated that 35,000 acres of vetch are being grown for seed production. The beekeepers of the county have only 1,200 colonies available for pollination. It was because of this situation that the meeting was called. A. H. Alex of the Texas Agricultural Experiment Station told the group about his studies of the relation between honey bees and seed yields during the past three years. Where there were no honey bees within several miles of the vetch field, the production was 194 pounds of seed per acre. Where less than one colony per acre, 274 pounds of seed were produced, but where there were 1 1/3 to 5 colonies per acre, the average was 361 pounds, or an increase of 86 per cent above the yield of the field where there were no bees and 32 per cent above

the yield where there was one colony per acre. The vetch growers realize fully that they need more bees.

In 1949 the Department of Entomology of the Texas Agricultural Experiment Station and the Soil Conservation Service cooperated in bringing the migratory beekeepers and the vetch growers together. Approximately 3,000 colonies were moved into Kaufman and Van Zandt counties by 11 migratory beekeepers. Kaufman County, through its County Agent, Reagan Brown, was the first to request this service of the Department of Entomology. Van Zandt County was a close second.

An infestation of pea aphids developed and it became necessary, in order to save the crop, to apply control measures during the blooming period. Some of the beekeepers moved away and a number suffered losses in the expected honey crop and also in colonies. The experience was not altogether profitable to some of the beekeepers. As a result there was a harmonious and genuine desire expressed and demonstrated by representatives of all groups present to cooperate with each other. This year the growers are prepared to use control measures just before the vetch begins to bloom in order to avoid, if possible, harming the bees.

The vetch growers voted to give the beekeepers at least a week's notice before applying the insecticide and discussed the desirability of uniformity in community action when control measures appear to be justified.

Local officials of the Soil Conservation Service have placed a large scale map in the American National Bank of Terrell where farmers can spot their locations of vetch acreage needing pollination. Mr. Eppler, who

lives in Terrell, offered his services in directing migratory beekeepers to available locations, and the office of the State Entomologist, again is aiding in bringing the needs of the vetch growers to the attention of the migratory beekeepers.

The spirit of the local beekeepers in offering aid in obtaining locations to migratory beekeepers from distant areas is unusual. These men realize the importance of vetch to their communities and also that increased yields per acre should be an objective as prices of seed may not always be as high as now. The prosperity of the area is increasing with the vetch plantings.

The experience of 1949 and the uncertainties in the production of a honey crop from vetch, such as may be caused by weather conditions and applications of poisonous insecticides, not to mention the opportunities of obtaining a crop from other sources, may cause some beekeepers to hesitate about going to vetch. The time is not far off, if it is not already here, when the vetch grower may find it necessary for profitable seed production to make arrangements sufficiently attractive to the beekeeper so that he will furnish good pollination service. The beekeeper is not interested in furnishing this service when it means his source of income from honey is reduced as is the case when there is only one colony of bees per acre. And less than that frequently means lowering of seed production.

Arrangements that may be made should be profitable to both parties. A fee on a per colony basis is not as satisfactory in the long run as when the arrangement is based on production of both seed and honey.

How-to-do-it

REPAIRING BEE VEIL

A roll of adhesive tape in the tool kit often comes in handy when a bee veil is accidentally torn. Holes and tears can be quickly patched by putting the adhesive tape on both sides of the tear and such patches often last as long as the veil. This may be used to mend a hole in the smoker bellows also and a small hole may be quickly repaired.

E. F. Bea, Minnesota.

* Texas Agricultural Experiment Station, Texas Agricultural and Mechanical College System.

Discussion

What have you found to be your most time-saving short cuts and devices for managing bees?

STEVE TABER, Wisconsin.

LLOYD KLOPFENSTEIN, North Dakota

Julius Lysne,
Wisconsin

To raise your own queens, at the beginning of the honeyflow set aside the food chamber containing a little brood with newly hatched larvae on a separate stand. The bees will rear a queen and fill the food chamber with honey. In the fall, unite the food chamber with the parent colony and the new queen will kill the old.

To provide water for bees, use an old discarded extractor with reel removed. Fill with water and let it drip from the honey gate and run down a board. Provide this early in spring and the bees will never bother neighbors' water tanks.

To remove comb honey during a flow when there is no robbing, simply set the full supers aside on the outer cover. The bees will leave the supers in a few hours and they can then be emptied. This saves using an escape board.

To avoid feeding pollen substitutes in the spring, place a shallow extracting super under the brood chamber. This works very well in a district having an abundance of pollen.

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Roy Littlefield,
Iowa

The time saver that rates high in my business is a half-depth, 10-frame super from which honey is extracted without removing frames.

This super is made by cutting a 10-frame hive body in half and grooving the top and bottom of each end of super to the correct depth for top and bottom bars. Eight grooved bottom bars and eight split top bars with crimp-wired foundation between are nailed in grooves at a distance of 1-8/10 inches from center to center. The combs are uncapped by turning supers over on a revolving table and the cappings are cut off by nine shafts with teeth in them, which whirl between combs. This uncapping machine is attached to a heavy duty shearing machine and a 1/2 H.P. motor. The supers are placed in the extractor on their sides and honey and cappings

from both machines drain into tanks below.

These supers save much time and labor as there are no frames to space regardless of how supers are carried. No queen excluders need be used to keep queens out of supers, providing the brood chamber is large enough for the queen. Honey can be extracted sooner as it does not take the bees so long to cap these shallow combs as it would larger ones. Also due to early capping of the shallow supers, it is much easier to keep honey from summer and fall flows separate. The supers are light and easy to carry. They can be freed of bees with carbolic acid in one-third the time required for larger frames. In cool weather if frames are light of honey, the bees can be shaken out in a short time by jarring supers against a tree or the ground. All combs in a super can be uncapped in a half minute and there are no frames to handle in extracting and storing of supers.

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Harry T. Starnes,
Indiana

The greatest time and labor saving short cuts I have used are those involving the use of electricity, that versatile energy of many farm uses. Clean, easily adapted for power, light and heat, easily started, and controlled automatically—electricity is a labor doer and saver, money maker, and product improver and increaser. Used intelligently, electricity changes the whole aspect of life on the productive farm.

The electric embedder for wiring foundation is a great improvement on the older methods, and electric light can extend the work to dark and shady corners of a room. Running water in the extracting house makes it easier to wash or sterilize utensils and equipment. Ordinarily, we do not speak of electricity as a commodity. However, it can be a first-rate helper around the modern apiary.

Electricity ranks high as a commodity. You and I go to sales, read advertising, hoping to get something at lower cost. Some of us read the

NEXT DISCUSSION—What is the best method of marketing your honey crop?—Frank P. Page, Sr., Oregon; Paul Elblad, Wisconsin.

U. S. indexes of prices farmers receive and what they pay. As a commodity, electricity is one of the best buys to save labor. The price either falls or remains steady when other things go sky-high. The commodity index for things you buy and sell hangs around two, meaning that you get about half as many beehives for your money or half as much wheat for a dollar as in 1914. The dollar is worth about half as much as formerly; but you still can get more electricity than you did formerly. No storing of a surplus of electricity, for fear you may run out—you cannot do that. Anyway, it will probably be cheaper next year! Turning my extractor by power saves labor and time, so I can live more happily. My electric uncapping knife takes very little time to heat up, comparably, and a flood light over the home yard is a big help when hauling in honey from outyards late in the evening.

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F. O. Lucore,
Nebraska

With the temperature at 90°, winter packing seems sort of in the distance, but this has made packing easier for me.

First, I winter bees in two standard hive bodies and a shallow leaf super, using ordinary entrance guard and a one inch auger hole for upper ventilation. For entrance guard I cut a piece of tin wider than the guard opening, bend at right angle and cut for desired width of restricted opening. Bend back the cut and slip the tin on the face of the guard. The part bent at right angle is held in position by the weight of the hive. It goes on and off easily.

To close the auger hole I use a standard 17/16 inch bung. If it is not tapped in flush, it can be taken out easily when packing is done.

Instead of one front piece and one large side and end piece of tar paper, I use front piece as usual but cut two pieces for the sides big enough to lap over the back. I use three thicknesses of newspaper clear around and then tar paper, fastening it with three wooden strips, two at the front and one at the back. The paper laps over the top of the hive under the cover. The smaller pieces are easier to handle and there is no waste.

Advice to Beginners

Taking Off the Honey

by Frank E. McLaughlin

AS some of you readers know, this is centennial year for Kansas City. There has been much ado here for some months now, including square dances, parades and pageants. And in celebration there are full beards, Vandykes, mutton chops and other varieties of whiskers being grown which closely resemble the old tin types of one hundred years ago. H. J. Schaffer, vice president of the Western Missouri Beekeeper's Association, has grown a full beard and is president of a beard-growing group known as the "Bushwhackers."

I want to wish everyone a safe and sane Fourth of July, and as this is vacation time, I also wish you a happy time wherever you go or whatever you do on your vacation.

It may be vacation time for people, but it is far from that for our little friends, the honey bees. This is the time of year for them to work hard. Outside of a week end or so, my spare time this summer will be spent with my bees and in my experimental garden. I think it would be fine for every beekeeper to plant a few trees and shrubs for the bees, and experiment with bee pasture for their own particular locality. Frank Pellett, of Pellett Gardens, can be of great assistance in advising you as to the best varieties of plants to use. He can supply you with many kinds of honey plants, ornamental shrubs, and seed.

We won't notice the time slipping by now, until time to take honey off our bees. There are several methods of removing honey in practice.

One way is to use an inner cover and bee escape, which many beekeepers use. If you are close

to your bee yard, this is easy. You can place the inner cover with bee escape flat side down under the super of ripened honey that you want to take off. Let it remain overnight while the bees go down through the escape and cannot get back up, and the next day the supers should be free of bees and can be removed.

Another way to remove ripened honey is the old method of brushing the bees off. Shake all the bees that will come off at the front of the entrance, then smoke and brush off the remaining bees and place the frames of honey in an empty hive body. Be sure the combs of honey are kept completely covered so robber bees cannot get in.

A third method used by experienced beekeepers is the acid cover. Extreme care should be practiced when using the acid board not to leave it on too long or it will make the honey taste. Beginners should be sure they understand just how to go about it before attempting this method.

An acid board can be made by nailing together a framework of 3/4 inch lumber the same dimensions as the hive body. Stretch tight and tack several thicknesses of absorbent cloth, such as blanket material, on the framework. Then over the cloth tack a piece of sheet metal, covering the full framework. If the bees are located in the shade, the acid board should be laid in the hot sun, metal side up, before using, as that heats the metal and makes the acid fumes more active. Get pure carbolic acid crystals and place the bottle of crystals in warm water until they liquefy. Dilute the liquid carbolic acid with an equal amount of water. The acid solution can be put in a jar with

a few small holes punched in the lid. When ready to put the acid cover on the supers, shake the jar and sprinkle the cloth side of the acid cover. Do not let the cloth get wet enough to drip. Place acid cover directly over the supers to be removed, cloth side down. The fumes will run the bees down in the lower hive body. Leave acid cover on only a very few minutes, for if left on too long the acid will taint the honey, and extracted honey especially, when heated, will have the taste of the acid and be unfit for market.

Also, if the acid cover is left on too long the fumes will run the bees out on the ground. Extreme care should be taken in using this method, and caution used to prevent the acid from coming in contact with any part of the body as it will burn the skin severely.

Be certain your honey is completely cured before taking it off the bees. That means thoroughly capped. Green honey that has not been cured by the bees carries a heavy water content which means it will ferment rapidly. It is also very thin in body. If you take off honey early in the season, be sure that you do not rob your colonies too much, as the fall flow is often too great a risk to depend on for winter stores for your bees, and they may go into the winter short of food. That could very easily mean loss of your colonies. A great majority of winter losses are caused by bees going into the winter too short of stores, or with too many old bees.

I cordially invite beginners to send their bee problems to me, in care of the American Bee Journal, and I will try to help you over the rough spots with knowledge I acquired through experience with my own bees.

How-to-do-it

Ease in Nailing Frames

To prevent frames from splitting when they are nailed together, soak all parts to be nailed in water about two to five minutes. This way, you will seldom find any frames to be repaired, and the nails are driven twice as fast and straight in the wet wood.

Bruno Racine, Quebec, Canada.

Eight-Frame Spacing

For several seasons I have tested the use of eight-frame spacing in the ten-frame super and find that this pro-

cedure is very satisfactory where the frames are accurately spaced. Some of the advertised spacers have been used and they are very effective. Three years ago our clover flow was of very short duration due to heat and drought, but the bees worked frantically on a heavy flow of Spanish needle and heartsease and the supers which contained the manufactured spacers were nicely filled with thick even combs. By using eight accurately spaced combs in a ten-frame super one can easily increase the crop of honey, get more honey through the extractor in a specified time, and from my experience less swarming will result.

E. F. Bea, Minnesota.

The Origin and Evolution Of the Honey Bee

by Dr. Melville H. Hatch

Continued from June

Part III—The Higher Bees

The overwhelming majority of insect societies are characterized by the existence of sterile individuals—individuals who have lost the power of reproduction and whose sole function is to gather food for the colony and/or to participate in its protection from enemies. It is the existence of these functionally sterile individuals that distinguishes the insect society from that of man. Among the termites sterile individuals are furnished by both sexes, but among the wasps, ants, and bees, only the females lose the reproductive power. The males (called drones among the honey bees) remain relatively primitive unsocialized insects whose only function in the economy of the society is to mate and die.

The most primitive of the bee societies that are characterized by the existence of a sterile worker caste is the short-lived colony of the temperate zone bumble bees of the genus *Bombus*. As before, it is not at all certain that the honey bee ancestor went through this precise stage, though it would seem probable that the first bee societies were of a temporary nature.

In the temperate zone the only stage of the bumble bee to survive the winter is the fecundated female, who burrows into the ground sometimes in the immediate vicinity of the nest in which she was reared.* In the spring she seeks out a suitable location on or in the ground, frequently a deserted mouse nest, and there hollows out a space about one inch in diameter in which she sets up housekeeping. Her first care is to build a small mound of pollen-paste, made of pollen moistened with honey. On top of the mound she makes, with her jaws, a circular wall of wax, which is secreted between the segments of the abdomen. Within

the cell so formed she lays from seven to sixteen eggs and seals it over. Meanwhile, in the entrance to the nest, the female constructs a waxen thimble-sized honey pot in which she stores honey to feed on in inclement weather. Immediately the eggs have been laid she sits on them and the larvae and pupae into which they develop, brooding them with her body warmth both day and night and leaving them for brief intervals only to collect food.

After about four days the eggs hatch, the larvae feeding at first on the mound of pollen and also on fresh pollen that the queen collects. The queen also feeds the larvae directly on a regurgitated mixture of pollen and honey, making a small hole in the larval cell for the purpose. About seven days after hatching each larva, if properly fed, produces a thin and papery but tough cocoon, and eleven or twelve days later—twenty-two or twenty-three days after oviposition—adult bees emerge. These first bees are undersized sterile females or workers and immediately set about collecting food and caring for their sister-larvae, some of whom have emerged from eggs laid when the first batch of larvae were changing into pupae.

It has been conjectured that the sterile worker caste first arose in the bees because of inadequate diet, the single founding queen being unable to collect enough food for her progeny, and that only later in the season as more food-gatherers are produced are the larvae sufficiently nourished to become functional females and males. At any rate such is roughly the case in the bumble bee.

As the season advances the nest enlarges, brood cells and honey pots increase in numbers, and the whole becomes encased in a waxen wall. The population increases to from 50 to 500 individuals, varying in different species and under different conditions. Unfertilized worker-laid eggs are said to develop into

males, anticipatory of the parthenogenetically produced males in the honey bee. Sladen (p. 49) says that both females and males are produced by queen-laid eggs, but whether such males come from unfertilized eggs is not indicated. At any rate, almost as soon as the males and functional females emerge they leave the parent nest, mate, and the females prepare for the winter. The aged queen and her little band of worn-out workers now sit together on top of the deserted comb, making no attempt to rear any more brood. "One night, a little cooler than usual, finding her food supply exhausted, the queen grows torpid, as she has done many a time before in the early part of her career—but, on this occasion, her lifework finished, there is no awakening." (Sladen pp. 54-55).

The bumble bee's history thus suggests how a worker caste may have originated, and shows us a diminutive hymenopterous society in which the workers eventually take over the maintenance of the colony. In still another respect the bumble bee illustrates an important feature of insect social, namely the invasion of the nest by other species of arthropods. Some of these are purely scavengers in the nest, doing the bees no harm, like the bumble-bee mimicking fly *Volucella*, the beetle *Antherophagus*, the mite *Parasitus bombarum*, and others. In Europe however, the wax-moth *Aphomia sociella* is very destructive. The full grown caterpillars are an inch or more in length. They feed on the brood, and a hundred or more of them will completely riddle a large comb with their silk-lined tunnels in a few days. As interesting as any of the invaders of the bumble bee nest is the parasitic bumble bee *Psithicus*. These bees lack both the food-collecting instincts and the food-carrying structures of the true bumble bees. The fecundated female enters a well-established bumble bee nest, kills the queen and lays its own

* In addition to Wheeler, my account of the bumble bee derives from F. W. L. Sladen, *The Bumble Bee*, London, 1912, 238 pp., illus., and O. E. Plath, *Bumblebees and Their Ways*, New York, 1934, 201 pp., illus.

eggs which are reared by the host workers. These social parasites have no worker caste. They closely resemble true bumble bees and are believed to be evolved directly from them.

The persistently primitive feature of the temperate zone bumble bee society is found in the temporary character of the social unit and the fact that it is established *ab novo* each spring by the unassisted efforts of a single fecundated female. The relative inefficiency of this method of society formation is shown by the heavy mortality that Sladen noted among newly established bumble bee colonies.

A beginning at more effective colony formation is perhaps represented by certain South American bumble bees where, according to Wheeler who quotes H. von Ihering, the colonies are perennial and new colonies are established by the swarming of groups of daughter queens and workers. Further information on these interesting bees would be in order.

More is known about the tropical meliponine bees. These usually live in colonies in hollow tree trunks or other secluded places. They are usually much smaller than honey bees and their societies may contain as many as 80,000 individuals (as many as in the honey bee colony), most of whom are sterile workers. They differ from other social bees in completely stocking the brood cells with food before closing them, so that there is no feeding of the developing larvae by the adults. The worker caste, as with the honey bees, has taken over the work of the colony. The functional females exhibit specialization for reproduction and certain signs of degeneration. Her pollen carrying structures have disappeared and her head is smaller. Her abdomen becomes so swollen with ovaries that eventually she becomes unable to fly. There is only one mother queen in a colony, but a number of young daughter queens are tolerated. New colonies are formed by the swarming of a single young queen accompanied by a detachment of workers. One suspects that an unassisted meliponine female is unable to start a new colony, but I find no definite statement concerning this in the literature.

In treating of *Allodape* and *Bombus* and the meliponines, I have not intended to suggest that they represent actual stages through which the honey bee ancestors passed. Certainly, once having achieved pro-

gressive provisioning of the brood cells as in *Bombus*, it is quite unlikely that mass provisioning of the cells as in the meliponines was ever reverted to. And the inability to fly of the old meliponine queen is a specialization that goes beyond anything in the honey bee. At most then, the economy of these "lower" bees is but a suggestion of the sorts of biological situations out of which the honey bees may have come.

From the meliponines it is but a step to *Apis*, one of whose species is *Apis mellifica*, the honey bee. If the functional females in this genus are less specialized than the meliponines in never losing the ability to fly, they are on a par with them in giving up pollen- and honey-collection, in possessing a smaller brain, and in being unable by themselves to establish new colonies. In one respect, however, the members of the genus *Apis* are specialized and unique, and that is in the intolerance of the female of any other female in the colony, either virgin or fecundated. This is closely tied in with the method of new colony formation, which is by the swarming of the old queen accompanied by old workers, who leave the nest in possession of young workers who release a new queen. The larvae are reared in open cells by progressive feeding by the workers. Unfertilized eggs produce males. Queens develop as the result of an exclusive diet of "royal jelly" produced by the pharyngeal glands of the worker. "Royal jelly" is especially rich in protein and is not fed to worker and drone larvae after the first days of larval life.

The genus *Apis* contains three species, the two more primitive of which occur exclusively in the Indomalayan region, indicating this as the probable site of the origin of the group. The most primitive of these is *Apis dorsata*, the queens of which may be nearly an inch in length, the workers and drones about two-thirds as large. These bees construct enormous combs which hang more or less exposed from the branches of trees and similar situations. The comb cells are all of the same size and type and the colonies are said to be migratory, though details on this latter point are lacking in the literature. Do they, for instance, desert the developing brood at the time of migration, or is each migration preceded by a period of about three weeks in which no eggs are laid? Either habit would be most astonishing. It is claimed that the

migratory habit prevents the establishment of this bee in hives (Wheeler) but this is disputed.*

Apis florea, the second Indomalayan species, is smaller than the honey bee. It likewise constructs exposed combs, but the cells are differentiated for honey-storage, for worker-larvae, for queen-larvae, and for drone-larvae, as in the honey bee. They are said, (Benton p. 13) to produce so little surplus honey as to make their domestication quite unpromising.

The honey bee, *Apis mellifica*, likewise occurs in Indomalaysia, and may be presumed to have arisen in that region. The comb cells are differentiated, as in *florea*, but in contradistinction to both that species and *dorsata*, it nests in hollow trees and other protected places. This habit, plus its ready tendency to lay up a surplus of honey, made it possible for the honey bee to migrate out of the tropics and take up its abode in the temperate zone as well. The colonies were large enough, the individual bees were large enough, the nesting sites offered sufficient protection so that the body heat of the bees would keep them through the winter. And the accumulated stores of honey provided food during the same inclement period.

So far in our discussion of the true bees little has been said about the geological background. Solitary bees in all probability did not evolve from wasp ancestors till flowering plants became plentiful in the Cretaceous period, some 100 million years ago. Bumble bees appear to be definitely known as fossils in Baltic amber (Lower Oligocene, about 30 million years ago), but there seem to be no other dependable records of fossilized social bees. Any estimate of the geological antiquity of bees with the *Apis*-type of biology would be a gratuitous guess. My own would be on the order of some millions of years, with the probability that honey bees had been operating in their present fashion for many hundreds of thousands of years before they attracted human attention.

Before making contact with man they seem to have spread widely over Eurasia and Africa and to have broken up into a number of geographical subspecies. Thus the south Asiatic form is known as *indica* and the South African form as *kaffra* or (Please turn to page 337)

*Frank Benton, The Honey Bee, U. S. Dept. Agric. Div. Ent. Bull. 1 (N.S.) 1896, p. 14.



A New Use Of Honey For Children

by D. C. Jarvis, M. D.

The author of this article, Dr. D. C. Jarvis, is an eye, ear, nose, and throat specialist, practicing in Barre, Vermont. He was associate editor of "The Medical World" until it suspended publication two years ago. His name is listed in "Who's Who in America."

Being a fifth generation Vermonter, he became interested in Vermont folk medicine and decided to make a serious study of it. He soon learned that honey was one of the important remedies used. It was used as a sedative and to produce sleep at night, for inflammation especially of the breathing tract, for arthritis, in convalescence from sickness when the digestion was weak, and as a pick-up to give new energy. It was a favorite remedy for headache and was used for hay fever and as a heart tonic.

Dr. Jarvis writes: "Honey as a remedy works just as well today as it has all through the years that have passed. But when I turn to the honey industry I am disappointed. Honey seems to be considered only as another sweet. The medicinal effect that follows its taking far outweighs its consideration as a sweet. The honey bee is a wonderful little chemist. Why we as human beings do not avail ourselves more of the bee's chemical and medicinal knowledge is difficult for me to understand. The medical value of honey far outweighs its food value even though this food value is very great."

HONEY is a hygroscopic food, that is, it is able to absorb or condense moisture from the atmosphere. The ability of honey to attract water is mainly due to a sugar called levulose which has the most moisture attracting ability of any sugar. Because of its ability to absorb, condense and retain moisture, honey should never be kept or stored in an icebox or in the cellar. A dry and not too warm place and a tightly closed container are best suited to storing honey.

This moisture absorbing ability of honey is observed in baking pastries and bread. They both remain moist and palatable for an indefinite period. In addition, honey has a very distinct bactericidal power which is mainly due to its moisture absorbing ability. All living microorganisms require a certain amount of moisture to maintain their lives. When these microorganisms come in contact with honey they are deprived of this much needed moisture and perish. Honey is acid in reaction which makes it an unfavorable medium for the microorganisms to grow in. Microorganisms which are harmful to the human body are destroyed in honey.

The moisture attracting ability of honey can be put to various uses. One of these is to attract and to hold fluid in the child's body during the hours of sleep so that wetting of the bed will not take place. Honey acts also as a sedative to the human body by lowering the phosphorus level of the blood and body tissues. When this level is higher than it should be, the child is irritable, a discipline problem, and does not fall asleep (Please turn to page 337)

As We See It

PROPOSED NEW GRADES FOR EXTRACTED HONEY—On May 18, the Production and Marketing Administration, U. S. D. A., issued proposed new standards for grades of extracted honey. Copies may be obtained by writing the above source, Washington 25, D. C.

The proposed grades are quite like those now in effect but contain some additions which have the possibility of causing serious difficulties throughout the industry. These are a point system based on FLAVOR (maximum number of points—50), ABSENCE OF DEFECTS (maximum number of points—40), and CLARITY (maximum number of points—10), and the limiting factors which are imposed.

Here is the chance for bone-picking! I like Spanish needle honey, you like the mild sweet clover honey, and our Pennsylvania friend prefers buckwheat honey, but each of us may not like other honeys. Titi and heartsease aren't too well liked, but they have their champions. Who is to judge? Except for a few honeys, we lack persons suitably skilled in honey tasting. Can the flavor of honey be defined or described? Will the PMA grade all samples for the industry? We question that they plan to perform such a service. Suppose our official taster "goes sour." After all, we do abide by the wine and tea tasters.

To the extent that "absence from defects" is measurable, we have no question to raise, but there are factors that affect "edibility" that cannot be measured or, perhaps, even defined.

By measuring the turbidity of a honey, clarity can be measured, but to use this factor it is necessary to establish more definite standards than has been done.

But the most serious feature of the pro-

posed point-grading system is its limiting factors. In each of the classifications of FLAVOR—good, reasonably good, fairly good, and off flavor—the honey is limited to the grade in which it is judged to fall, regardless of its other properties. In each of the classifications of FREEDOM FROM DEFECTS—free, reasonably free, fairly free, and honey failing to meet the standard for "fairly free"—again honey is limited to the grade in which it falls, regardless of how good it is otherwise. In the case of CLARITY, the honey is limited to a grade only if it is judged "fairly clear" or below that standard.

Added to the standards is Grade C, or U. S. standard, which permits a moisture content of 20 per cent, while both Grade A, or U. S. Fancy and Grade B, or U. S. Choice, permit a moisture content of 18.6 per cent. Moisture content is expressed in per cent of soluble solids—a term used generally in industry, and a table gives the refractive index, specific gravity, and moisture content for each change in per cent of soluble solids.

We are in favor of more exacting grades for honey. We recognize that the first draft of all grading regulations needs clarification and changing. The main thing is to get a workable set of grades which can eventually be made compulsory. Compulsory grading has done much for the honey industry of Canada. We feel that it can do much for us.

It is an extremely difficult and thankless task to develop a workable set of grades. We compliment Washington officials on what has so far been developed.

Objections and suggestions should be registered within 90 days from the date of publication of these proposed standards in the Federal Register, which makes the deadline about August 15, 1950.

How-to-do-it

Super Pans

It is always hard to find something to set a sticky super on, so we had some pans made which solved the problem. They are made of heavy sheets of tin, two inches wider than the super and four inches longer. The sides are turned up one inch and soldered at the corners to form a pan. The pan keeps the supers clean and saves dripping honey. We use them in the apiary and the honey house. They are easily cleaned with steel wool and water, and they surely save a mess.

Mrs. Everett J. Pease, Kansas.

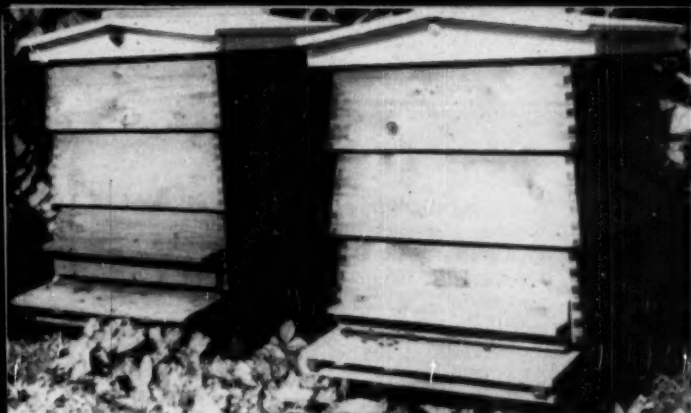
Answering Your Questions

When producing section comb honey, if the section super is placed between two ten-frame brood chambers should the queen be confined to one or the other of the brood chambers?—Ernest Holler, Minnesota.

It is a good plan to put the comb honey super between the two brood chambers and the queen should be confined in the lower body with a queen excluder between it and the super. If there is a good honeyflow, put a comb honey super above the second hive body, and when the first super is filled the top super can be placed under the upper brood chamber and over the first comb honey super and another empty super added on top of the upper brood chamber.

Hive Trends in England

by David Bone



Top—

The once prevalent double-walled English hive of Wm. Broughton Carr.

Center—

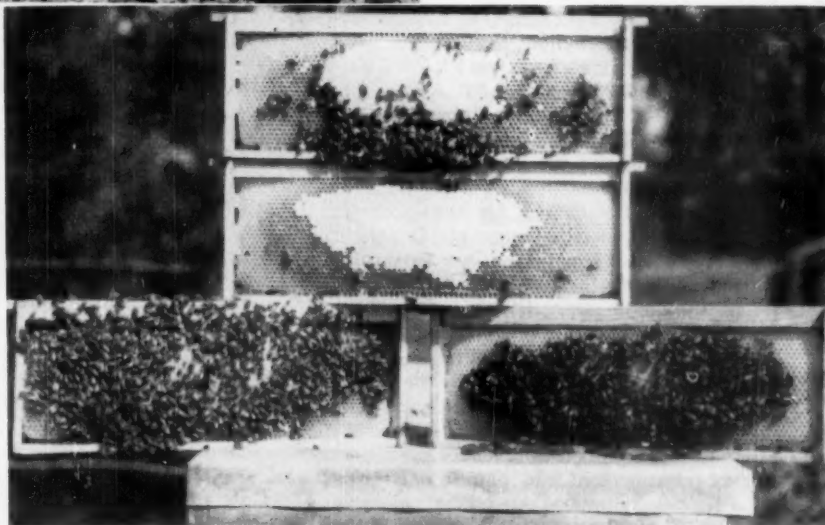
Manley shallows from a Modified Dadant hive.

Opposite page, center—

British "National" hives, showing one of the newer styles of brood boxes, modified so that the long-lugged British Standard frame may be accommodated in an entirely single-walled box.

Opposite page, below—

A British Standard frame from a National hive. This picture was taken many long years ago, and none but Modified Dadant hives are now to be found in the author's apiaries.



ONE day I was talking to a charming young Italian girl, who had come over to our country to learn the language. She had told me that she was fond of dogs; and I remarked that our wire-haired terrier bitch had lately produced puppies. "Oh, how lovely!" she exclaimed. "Are they pure, or are they bastards?"

One does not often hear Shakespearean English nowadays and I could not help smiling. But ever since, I have asked myself the same question whenever I have set eyes upon the hive which is most popular in England today.

This hive, which is called the "National," has two very dissimilar parents. From its English forebear, the hive of Wm. Broughton Carr, it inherits the British Standard or Woodbury frame, and the beeway below the frames; and from its American progenitor, the modern Langstroth

hive, its admirably simplified shape and construction. It is (as my young acquaintance would have called it) a bastard. But, unlike Edmund in the play, it is a very popular bastard.

It has, during the last twenty years or so, widely supplanted the double-walled W. B. C. hive, and this has been the first step towards the Americanization of our equipment.

But the British Standard frame is a small frame. Its comb area is only three quarters of that of the Langstroth. The ten British Standard frames which originally comprised a brood chamber have long since been found insufficient; and all progressive British beekeepers now use two British Standard boxes for brood. The body of a National hive holds eleven frames; whereas that of the W. B. C. hive holds ten.

British Standard frames, which until the other day were spaced by an invention of the Devil called

"metal ends," are now being produced with a Hoffman spacing. But the British frame has long lugs; and you cannot have it in a hive body truly single-walled. The two ends of the box must be thickened somehow, and in the National hive are, in fact, double-walled. Thus an undesirable complication is introduced; for the hive body cannot be made from four pieces of wood, two of them rabbeted, *a l'americaine*. So there has risen a cult of the short-lugged British Standard frame, which (as R. O. B. Manley has pointed out) is not British Standard at all. This modified National hive is sometimes called a "Smith." This is a further step towards our Americanization. But in the National hive and its variants, the beeway is still below the frames.

One day it will be generally perceived that our frame is far too small (as Americans will, I think, one day decide that the Langstroth

As We See It

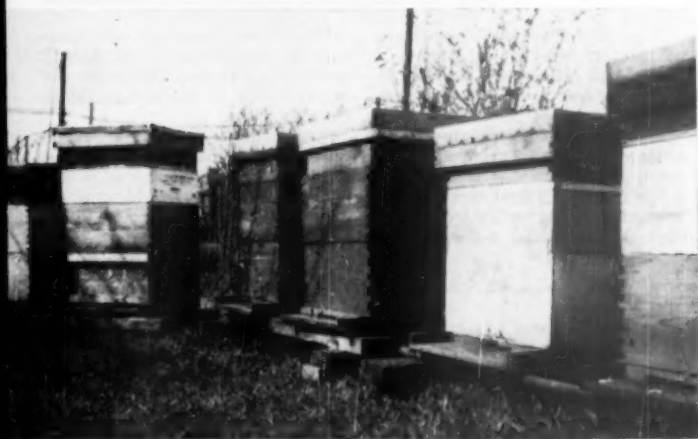
TIME FOR ACTION—A report of a convention of the Southern Seedsmen's Association last December, contains a talk given by Mr. Alvin B. McCormack, Director, Agricultural Conservation Programs Branch, Production and Marketing Administration, U.S.D.A. Speaking to seedsmen, Mr. McCormack had this to say about the government's program to retire cash-crop lands to grasses and legumes:

"I don't think we can over-emphasize this whole matter of diverted acres. I think it is the key to the future of our agriculture. If we fall down on our responsibility in taking care of these acres taken out of wheat, corn and cotton, I see our whole conservation and price support program crumbling. And if it goes, I hate to think what will happen to Agriculture—to our whole economy. But if we get together and drive for conservation uses on our diverted acres, we'll be taking

care of our land and our production at the same time, and we'll be building reserves for the future. One way is waste and ruin, the other leads to a stronger agriculture and a continued abundance. And the road forks at our use of diverted acres . . ."

"Let's get busy and get the grass and legume seed we need produced. Then see to it that it is distributed to the farmers who need it. Already in the Department of Agriculture, we're moving ahead on a number of specific actions aimed at increasing seed production."

Statements, such as this, and action are two entirely different things, for the Department has announced no program to encourage seed production other than its price support program. In the face of high supports for cash crops, it does not appear that price supports for grass and legume seeds will materially increase production. It is time that the Department of Agriculture took further action, in our opinion.



use it—one (Manley) with an emphasis on the deep roof and the short floorboard. This shrewd and experienced bee farmer, by the way, does not like your Hoffman **shallow** frames. For harvesting honey, he uses a closed-end frame, having a bottom bar as wide as its top bar, and running ten to a Modified Dadant shallow box. This useful and sturdy frame has wide side bars like the old Quinby and Danzenbaker frames. It is becoming popular here, and is known as the Manley type shallow.

Were there any likelihood of our great grandchildren enjoying security and repose enough for the cultivation of bees, I should say that they would all, by then, be using Modified Dadant hives.

— Kent, England.

frame is too small) and this will be the last step in our Americanization. We shall have reached beatitude.

Already most of our leading men in the craft have declared themselves in favor of equipment of genuine American pattern, with no bar sinister in its armorial bearings. The Langstroth hive is widely used. But the hive of the future here in England, as elsewhere, is, in my opinion, the Modified Dadant. Three of our four biggest commercial producers



The Cover Winner

L. F. Bowman

Hilliards, Ohio



About this month's cover picture Mr. Bowman writes: "This is one of my boys whose curiosity about bees ends just about this far from the hive. Please do not judge the strength of my colonies from the apparent lack of bees in the picture! I assure you there are a few more than that. It was a cool morning when the picture was taken.

"I am a public school teacher and an amateur bee man by hobby. I have eight colonies at present, all descended from a single eight-frame colony purchased some nine years ago. Have sold colonies, given them away and what not, and still keep slowly increasing. My proudest boast is the fact that I have never lost a colony in wintering as yet. This Ohio climate is kind to them.

"Have been a reader of your magazine for several years and accredit much of my success and enjoyment of my hobby to knowledge gained from its pages.

"Other hobbies include rabbit raising, gardening and photography. With four children, two boys and two girls, our little three-acre plot close to Columbus, Ohio is a lively and happy place to be."

Picture Contest

Now that you're spending a lot of time in the bee yard don't forget to take along that camera and make a try for winning the Cover Picture award of ten dollars, or the Break Page prize of five dollars. Entries in this contest are slowing down, so your chance of Don't forget that not more than

Don't forget that not more than two pictures by the same person will be used during the year for the Cover, and not more than two for the Break Page. All payments will be made following publication.

The pictures you send should be glossy prints 5x7 inches or larger, as small pictures do not enlarge well in making engravings. If you have a good small picture, send the negative. If it can be enlarged, it may do.

Your pictures can be either posed or natural, candid shots. They must be sharp and clear with good detail and composition. We want photos of unusual interest dealing with some phase of beekeeping or related subjects.

Don't forget that Camera when you go to your apiary. Good luck.

How-to-do-it

Discarding Undesirable Brood Combs

Brood combs which have outlived their usefulness, sagged cells, drone combs, etc., always seem to be filled with brood or honey when the beekeeper wants to discard them. To overcome this, place a thumb tack in each comb which is to be discarded. This is done during the spring and summer as they are discovered. In the fall, before the bees are packed for winter, these marked combs are placed in the lower brood chamber and a perfect comb from below is inserted in its place in the upper brood chamber. It is left there until the next spring when it will generally be empty and can be removed.

E. F. Bea, Minnesota.



At the top left is a picture of a modern statue of St. Ambrose, the patron saint of beekeepers in that country. The other photograph shows a fine specimen of a skep made in the likeness of the saint.

Break Page Winner

Ir. J. Mommers,
Tilburg, Holland



"When I saw the picture on page 573 of the December 1949 American Bee Journal, my first thought was that it was of St. Ambrose, but reading the article of the well-known specialist in beekeeping history, I saw my mistake.

"In our country St. Ambrose is the patron of beekeepers. In some

churches you will find old statues of the saint with a skep and there are some statue hives that resemble the St. John of Nepomuk of your picture. Skeps are made in the form of St. Ambrose. The reason why St. Ambrose is chosen a patron for beekeepers is the legend that when he was a baby lying in his cradle a

swarm of bees settled on him, bees walking into his mouth without hurting him. His father seeing this exclaimed that something great would become of his son. This turned out to be true, for in the year 373 he was elected a bishop of Milano. He was born in the year 339 or 340 and died in 397."



The Rich Honey Farms

Jeanerette, Louisiana

A Choice of Three Fine Strains of Queens

| | | |
|---------------------------|--------|--------|
| | 1-24 | 24 up |
| DADANT'S STARLINE HYBRIDS | \$1.10 | \$1.00 |
| Rich's Leather Italians | .85 | .75 |
| Caucasians | .85 | .75 |

THESE PRICES ARE EFFECTIVE TO SEPTEMBER 16TH

The most important thing anyone or any business can have is a good will of others. It is as fragile and as beautiful as an orchid; and as valuable as a gold nugget, and as hard to find; as powerful as a turbine and as hard to build; as wonderful as youth and as hard to keep. MUTH CO. since 1858.

WRITE FOR OUR MONEY-SAVING BEE SUPPLY CATALOG.
WE WILL BUY YOUR HONEY AND BEESWAX AT THE
BEST MARKET PRICE.

THE FRED W. MUTH CO.

CLIFFORD F. MUTH, Sr. Pres.

229 WALNUT ST.

CINCINNATI 2, OHIO

BETTER BRED QUEENS

Watch those falling queens and poor colonies. Be sure and replace them with our Better Bred Stock and watch them pay off. QUEENS, 50 CENTS EACH.

CALVERT APIARIES

THREE BANDED ITALIANS

Calvert, Ala.

Bees and Queens

Italian, Caucasian and Resistant

Over 30 years a shipper.

Send for FREE CIRCULARS.

Blue Bonnet Apiaries

Rt. 1, Box 23

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MACY'S ELECTRIC UNCAPPING KNIFE

Operates from 110-115 AC current. Steady heat. Adjustable thermostat. 6 foot rubber covered cord.

\$15.00

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THE HEART OF THE COMB HONEY IS FOUNDATION —

The biting quality of the honey, that delicate center taste is foundation. It must become a part of the honey, so tender, a touch of the tongue will crumble it; yet be so strong, that bees work it out quickly and easily.

DADANT & SONS, Inc., Hamilton, Illinois

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QUEENS, rest of season \$65.00 per hundred

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1015 Sonoma Avenue
NO. SACRAMENTO, CALIF.

GLASS AND TIN CONTAINERS

5-lb. glass jars, white caps, carton of 6 \$3.58
3-lb. glass jars, white caps, carton of 12 .68
2-lb. glass jars, white caps, carton of 12 .62
1-lb. glass jars, white caps, carton of 24 .50
Order 2 lbs. glass 8c per carton less than list price, 100 cartons 10c less. Write for complete list and quantity prices on tin, modernistic glass, paper supplies, sections, foundation and other items.

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Palmetto Quality Queens

We are prepared to furnish you with QUALITY QUEENS from our Mott's strain of Three-Banded Italians. Summer prices as follows: 1 to 5, 80c each; 5 to 10, 55c each; 10 to 50, 50c each.

Our guarantee—good queens and no disease

C. G. Ellison & Sons BELTON, S. C.

ITALIAN QUEENS

Line Bred 50c Each

B. J. Bordelon Apiaries

MOREAUVILLE, LOUISIANA

CALIFORNIA STATE DISTRIBUTOR
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Lewis-Dadant Beeware and
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Business located 3/4 mile south of Tulare
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HERE IS A TOOL that does your spacing, quickly and accurately. There is positively no preliminary handspacing needed. Whether you have to space one super or a thousand you need only one pair of the new HAARMANN'S FRAMESPACER

Pat. Pend.



Made in all popular, special or combination of sizes. Ask for information and prices.

HARRY M. HAARMANN,

1967 W. Lake Avenue, Glenview, Illinois

PRITCHARD'S QUEENS

I am using James W. Bains breeding stock and system of queen rearing. 22 years queen rearing experience. 10 years with my grandfather

Mei Pritchard. Satisfaction
QUEENS \$1.00 Each Guaranteed
LAWRENCE PRITCHARD, Ludlow Falls, O.

Dadant's Crimp-Wired Foundation will assure you fine combs at all times. Made of pure beeswax — Hamilton, Ill.

THRIFTY QUEENS
THREE-BANDED ITALIANS ONLY.
Lots of 100, \$50.00; Smaller lots, 60c each.
REMEMBER—THRIFTY BEES ARE
GUARANTEED TO PLEASE

W. J. FOREHAND & SONS
FORT DEPOSIT, ALABAMA
Breeders Since 1892



CAUCASIANS, CARNIOLANS

Hardy, prolific, rapid build-up, best of workers. Caucasians have the longest tongues of any race. Both build beautiful white combs. BOTH ARE THE GENTLEST OF ALL RACES OF BEES. Gentleness is safest in towns, near neighbors or near streets or highways. Gentleness saves time, sweat, patience and work. Prices, both races: Untested queens \$1.00 each. Tested queens \$1.75 each. By Air Mail. Discount on Quantity Orders—Ask.

Albert G. Hann Glen Gardner, New Jersey

"GLEANINGS"

World's Most Popular Bee Magazine—64 pages—Lots of pictures. 1 year, \$2.00; 2 years, \$3.00, 3 years, \$4.00.

THE A. I. ROOT CO.
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HONEY CONTAINERS

We have a complete stock of 5-lb. and 10-lb. tin pails and 60-lb. cans.

GLASS JARS

1/2 and 1-lb., 24 in a carton.
2 and 3-lb., 12 in a carton.
5-lb. glass pails, 6 in a carton.
Write for prices.

A. H. Rusch & Son Co.
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WANTED Thousands of Rabbits and other Small Stock. Poultry and Birds. Let

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Bring you the Monthly News of Rabbit, Cavy, Small Stock, Poultry, Birds and Other Pets.

STANDARD RABBIT AND PET JOURNAL
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Spears' Quality Bred Italians
When you buy queens you must buy for quality since quantity doesn't enter the picture—and that's exactly what we have—QUALITY—in any quantity. Now is the time to requeen during the honeyflow and be sure that your bees have the best queens before winter comes on—so order today. 50c ea. any quantity—Quality Bred Italians
SPEARS' APIARIES Hamburg, Louisiana

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SEND FOR FREE SAMPLE COPY

The Beekeepers Magazine
LANSING 15-B, MICHIGAN—ESTAB. 1939
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QUEENS Garon's High Producing Stock QUEENS To Overcome Low Money Prices

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ON OUR 3-BANDED ITALIAN
QUALITY QUEENS

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| 1-24 | 40c |
| 25-99 | 55c |
| 100-499 | 50c |

Queens Mailed Prepaid, Regular or Air Mail, Painted and (or) Clipped at No Extra Charges.

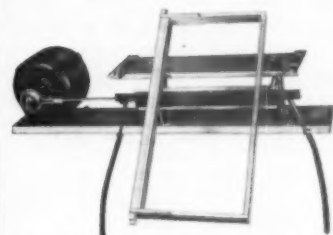
PRICES
On Garon Reared Dadant Starline
Hybrid Disease Resistant Queens

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|---------|--------|
| 1-24 | \$1.10 |
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GARON BEE COMPANY, Donaldsonville, Louisiana

QUEENS QUEENS QUEENS
LIGHT COLORED ITALIANS 50c EACH — AIRMAIL
E. J. BORDELON APIARIES, Box 33, Moreauville, La.



DO YOU KNOW The Brand Power Uncapper

as refined by Woodman, now has a guard and frame rest guides? This Steam Heated, Double Cutting Edge Knife, with 1725 vibrations per minute, is very fast.

Mrs. Longcore, who uncapped about 8,000 lbs. of honey with an electric heated knife remarked: "I do not know which I like best my new electric sewing machine or the Brand Power Uncapper."

PRICE NOW WITH MOTOR \$49.50

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LOOK THIS OVER • SOMETHING NEW



We offer untested queen-daughters of Hybrid Breeding Stock developed by The U. S. Dept. of Bee Culture and distributed by The Honey Bee Improvement Coop. Assn. of Ohio. We also have our regular stock of light-colored Italians. Please SPECIFY "Hybrid" or "Regular" on orders. Hybrid or Sunkist Italians: 50c each.

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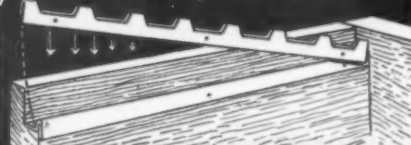
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STOLLER Slip-on FRAMESPACER

**LESS WORK
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Now used everywhere as essential equipment. Sixteen styles to fit any standard frame. Write for details, prices.



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I BELIEVE MY QUEENS to be as good as the best. Try them at sixty cents. Raymond McFarling, Shannon, Mississippi.

REAL PETS—Brown's non-swarming, non-stinging bees. Owing to personal injury I will not fill orders until further advertisement. Brown's Apiary, Cape May Court House, New Jersey.

LAYING ITALIAN QUEENS shipped by air mail, \$1.00 each. Excellent honey producers. C. Allen Wagner, Jr., Aldan, Pennsylvania.

THREE-BAND ITALIAN QUEENS—75c ea. If you want honey, try my queens. I've had 22 years in bees and honey. Luther Pickett, Efland, North Carolina.

ITALIAN QUEENS—Northern stock, \$1.00 each. Ten up, 90c. Shirl Baker, Rodney, Michigan.

GOLDEN ITALIAN BEES AND QUEENS, real beauties. 2-lb. with queen, \$3.00 each; 3-lb. with queen, \$4.00. Select untested queens, 1 to 25, 90c each; 25 up, 75c. Carolina Bee Farm, Graham, N. C.

PACKAGE BEES headed by Mountain Gray Caucasians or leather colored Italian queens. Write for prices. Twin Bee Co-op., 3616 Caucasian Circle, Tampa, Florida.

BREWER'S LINE BRED Caucasian queens, 1-99, \$1.00; 100 up and over, 75c. Member ABBA, Brewer Brothers Apiaries, 3616 Caucasian Circle, Tampa 9, Florida.

GREEN'S profit producing queens are the best. Backed by 22 years of breeding better queens. 75c each. D. P. Green, Rt. 2, Deland, Florida, Phone 512XKM.

CAUCASIAN BEES AND QUEENS—Finest quality, extra good workers and very gentle. Package bees—1 to 25, 2-lb. with queen, \$3.00; 3-lb. with queen, \$4.00. Select untested queens, 1 to 25, 90c; 25 up, 75c each. Prompt service. Black River Apiaries, Rt. 1, Currie, N. C.

THREE BANDED ITALIAN bees and queens—2-lb. with queen, \$3.00 each; 3-lb. with queen, \$4.00. Select untested queens, 1 to 25, 90c each; 25 up, 75c each. Alamance Bee Co., Graham, N. C.

I HAVE A LARGE STOCK of nuclei and colonies for April, May and June delivery. Carniolans and Italians. Queens ready to mail now, \$1.25 each. Wm. Atchley, 500 East 9th Street, Upland, California.

QUEENS OUR SPECIALTY—Carniolans, \$1.20; Caucasians, 90c. Isolated mating yards. Italians, 90c each; Italians after May 15th, 50c. Walter D. Leverette, Fort Pierce, Florida.

CAUCASIAN QUEENS—1 to 9, \$1.25 each; 10 to 49, \$1.00 each; 50 and over, 90c each. Howard E. Crom, Rt. 1, Box 75, Ripon, California.

GOLDEN QUEENS—90c air mail. Write for quantity price. O. E. Brown, Rt. 1, Asheboro, N. C.

LANGE'S QUALITY QUEENS for 1950—Leather colored Italians, 1-50, \$1.10; 50 and up, \$1.00. Lange Apiaries, Rt. 2, Box 23-W, Mission, Texas.

BRIGHT GOLDEN ITALIAN bees and queens. 2 lbs. with queen, \$3.50; 3 lbs. with queen, \$4.50. Queens, \$1.10 each. Guilford Apiaries, 4300A, Burlington Rd., Greensboro, N. C.

YANCEY HUSTLERS—Reliable package bees and queens. Priced right. Caney Valley Apiaries, Bay City, Texas.

FOR SALE

FOR SALE—Two hundred ten-frame comb honey supers. Richard K. Evans, Rt. 1, Hoopeson, Illinois.

Copy for this department must reach us not later than the tenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rate of Classified advertising—13 cents for each word, letter, figure or initial, including the name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other references with your copy. Advertisers offering used equipment or bees on comb must guarantee them free from disease or certificate of inspection from authorized inspector. The conditions should be stated to insure that buyer is fully informed.

FOR SALE—45-frame extractor (Simplicity), like new, \$135.00. Also Lewis Markle 4-frame automatic reversible, \$30.00. The Neises Co., Box 249, Marshfield, Wis.

FOR SALE—One of the best established small package and queen business in Alabama. Box 193, care American Bee Journal.

FOR SALE—180 well painted, 4-story, 10-frame colonies of bees. Disease free. Selling because of poor health. C. E. Andrews, Box 334, Fallon, Nevada.

SIXTY HIVES OF BEES—10-frame standard hives. Supplies for 200 hives. No disease. Will sell all or part. Reason for selling, poor health. Arthur G. Leathers, Bunker Hill, Illinois.

FOR SALE—Fifty hives of bees. All or part. Very reasonable. R. E. Weldon, Warrensburg, Missouri.

FOR SALE OR LEASE—Will sell part or complete units fit your requirements. You can purchase part unit, lease additional quantities round out your needs. Option to buy later. Proven territory: Idaho, Wyoming, Montana, Nebraska—sweet clover, alfalfa areas. Our processing plant and marketing program assures outlet honey produced from bees purchased or leased. Bright future—low cost operations. Our 45 years' production experience ready to assist you getting started. Right prices, reasonable terms available. BRADSHAW & SONS, Wendell, Idaho. Largest Individual Producer-Packer in U.S.

FOR SALE—(A) 4-frame hand reversing extractor, fair condition, painted, \$12.50. (B) Same as above except practically new, \$17.50. Both similar to Style H512 in Lewis Dadant catalog. (C) Universal 4-8, practically new, \$42.50. See H521 in catalog. All hand driven, priced F. O. B. Boone, Iowa. Write Herald Partello, Rt. 2, Boone, Iowa.

FOR SALE—1,000 colonies on clover and alfalfa, in the heart of seed and fruit area. Correspondence invited. D. L. Smith, 1612 W. Main, Medford, Oregon.

FOR SALE—100 10-frame double-story colonies. \$8.00 each. State inspected. No disease. Will sell all or part or trade for good car. Geo. Olwach, Custer, Mich.

TWENTY COLONIES BEES 10-fr. standard equipment, inspected, reasonable. James Wheeler, Moroa, Illinois.

250 STANDARD SUPERS, 110 shallow supers, all with 9 drawn combs, 56 metal covers, 80 bottoms, 30 queen excluders. Guaranteed clean. Equipment is at Bristol, South Dakota. F. A. Storz, St. Mary's Iowa.

200 COLONIES bees with honey on hives. Roger A. Morse, Sauterlies, N. Y.

FOR SALE—Lifetime 8-frame extractor \$95.00. Howard Richards, Lexington, Nebraska.

HONEY AND BEESWAX WANTED

WANTED—Clover honey. Send sample, state price and amount. Ben Hughes Honey Co., New Market, Missouri.

WANTED—Honey in any quantity. Please send samples, quote price. Cole's Honey Co., 251 Pacific Ave., Piedmont, California.

WANTED—Comb honey and extracted honey, large or small amounts. Send price list and samples. R. A. Raley, Box 2263, Daytona Beach, Florida.

WANTED—Extracted honey, white or light amber, in 60's. State price in first letter. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

WANTED—All grades comb and extracted honey, large or small amounts. Quote price in first letter. Mail sample. King Honey Co., 326 Bales St., Kansas City, Mo.

HONEY AND WAX WANTED. Mail sample. Advise quantity. Bryant & Sawyer, 2425 Hunter St., Los Angeles, Calif.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1366 Produce Street, Los Angeles, California.

HONEY FOR SALE

HONEY FOR SALE—Comb honey, new crop. Write for prices. Crawford Smith, Clayville, N. Y.

HONEY, white to water white clover, heated and strained, ready for bottling. 15c per lb. in 60 lb. cans F. O. B. Lose Brothers, 206 E. Jefferson St., Louisville, Ky.

ORANGE BLOSSOM, Florida tupelo, white clover, buckwheat honey and pure maple syrup in one or five gallon cans. Alexander Co., 819 Reynolds Rd., Toledo, Ohio.

NEW CROP OF HONEY shipped daily from producer in Florida. Pure orange blossom, 5-lb. pail \$2.25. Pure Florida cut comb honey, 5-lb. pail \$2.75. No C.O.D. orders; all shipments prepaid. E. R. Raley, Box 1610, Daytona Beach, Florida.

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HONEY SALESMAN WANTED—Good income possible—Protected territory. Write Box T. O., care American Bee Journal.

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B. B. PLIERS AND HIVE TOOL COMBINED for loosening and lifting frames. Labor saver. Pocket size. Price \$1.00, postpaid. California Bee and Tool Co., 810 W. Pedregosa St., Santa Barbara, Calif.

YOUR WAX WORKED into quality medium brood foundation 23c pound; 100 lbs., \$19.00. Medium brood foundation for sale at 65c lb. Fred Peterson, Aiden, Iowa.

OUR FREE BEE SUPPLY CATALOGUE Lists double boilers, special motors, blowers, etc., not listed by others. We manufacture bee hives, wired and plain foundation, tanks and extractors, etc. Quick delivery from stock. Walter Kelley Co., Paducah, Kentucky.

CLEAN UP AFB with sulfa. 25 tablets 50c; 50, \$1.00; 100, \$1.50; 1,000, \$7.00. Free Circular, quick shipment. WALTER T. KELLEY CO., PADUCAH, KENTUCKY.

SOUTHERN CALIFORNIA HEADQUARTERS for Bee Supplies. Make our facilities your "Trading Post." Complete stocks. See our Bulletin Board for Budget Bargains. The Diamond Match Company, 1300 Produce Street, Los Angeles 21, Calif.

FOR SALE—25,000 mill run Lewis sections 3 1/2 x 5 1/2 scalloped 4 sides 1/2 inch at \$14.00 per thousand. f.o.b. Hamilton, Ill. Dadant & Sons, Hamilton, Illinois.

THE ONLY COMB FOUNDATION PLANT in the East. We sell foundation, work your wax, render combs and capcans. Robinson's Wax Works, Rt. No. 3, Auburn, New York.

HONEY LABELS

Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.

C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

SUPPLIES (Continued)

BEES SUPPLIES—Lewis Woodenware—Dadant's Foundation. Send for catalog Simeon Belier, Intercourse, Pennsylvania.

WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

WANTED

WANTED—Sparkler filtering system. State full information and price. Cole Honey Co., 231 Pacific Ave., Piedmont, California.

WOMEN earn money at home. Sew our ready cut "Rap-A-Round." Easy-profitable. Hollywood Mfg. Co., Dept. 137, Hollywood 46, California.

SEEDS AND TREES

SEEDS OF HONEY PLANTS. Ask for free catalogue. Melvin Pellett, Atlantic, Iowa.

DAIRY GOATS

CASH FROM SPARE TIME—Operate goat dairy. Magazine tells how; trial 6-mos. 25c. Dairy Goat Journal, Columbia, B2, Mo.

MISCELLANEOUS

FURD will bee tree with my outfit Grover, Bristol, Vermont.

RANCH MAGAZINE—Do you find it difficult to secure information about sheep and sheep ranching methods? The **SHEEP AND GOAT RAISER** reaches more sheepmen with more information of range sheep than any magazine published. Subscription \$1.00. Hotel Cactus, San Angelo, Texas.

KNOW interesting facts concerning the bees of India through the **INDIAN BEE JOURNAL**, published in English, by the Phupen Apiaries (Himalayas), Ramgarh, Dist. Nainital, U. P., India and obtainable from them. Subs. Rs 7/- or 10 Shillings or 2.25 Dollars per annum. Single copy Rs 1/4/-s. 1/9 or 49 cents (international money order). Payment in mint postage stamps of your country accepted.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents, stamps. Membership of the Club including subscription to the paper 10/6. The Apis Club, The Way's End, Foxton, England.

Dadant's Honi-Sweet Candies

Made with milk chocolate, honey and pecan meats. Something different. Pound box, \$1.50 Postpaid.

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Carloads and less than carloads. Mail sample and best prices in all grades.

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**A Complete Line—
Priced Right**

TIN

**5 and 10-lb. Friction Top
5-Gal. Square Cans**

GLASS

**Modern or Plain
1/2, 1, 2, 3, 5-lb.**

COMB HONEY

**Cartons
Cellophane Wrappers
Shipping Cases**

• • •

**The A. I. Root Company
OF IOWA
COUNCIL BLUFFS, IOWA**

**Empire State Honey Producers'
Meeting, August 12**

Summer picnic of the Empire State Honey Producers' Association will be held on August 12th at Taughannock Falls State Park, near Ithaca, New York.

Many labor-saving devices will be featured, with prizes of \$10.00, \$5.00 and \$2.50 for the best. Everyone is invited to attend and to participate. Honey prices, governmental regulations, and crop conditions will be the main topics of the short talks.

Edw. T. Carey, Sec'y.

The demand for honey could not be filled if 2 1/2% of the gross income from beekeeping were wisely expended each year for advertising.

Glenn O. Jones, Sec'y-Treas.
American Beekeeping Federation.



J. J. Wilder

The death of J. J. Wilder removes one of the most colorful beemen of the South during the present century. He died at the age of 77 at the home of his sister in Macon, Georgia.

Mr. Wilder's craving for honey led him into beekeeping as a young man. He expanded his work until he was the largest beekeeper in the South-east during the 1920 decade. His headquarters for many years was Waycross and Cordele, Georgia. At his peak he was credited with several thousand colonies of bees. Later ill health forced him to relinquish many of his activities.

Wilder was the author of two bee books: "Southern Bee Culture," published in 1908 and "Wilder's System of Beekeeping," in 1927. He also started the monthly magazine "Dixie Beekeeper," which he published for eleven years. It then merged with the "Beekeepers Item" edited by E. G. LeSturgeon.

In the last year of the "Dixie Beekeeper," Mr. Wilder was urging the production of chunk honey, always a good seller in the South. Today we find a new impetus for the production and distribution of his favorite style of pack.

MACK'S QUEENS

(They Speak for Themselves)

By the calendar it's late, but not too late to head your colonies with some of Mack's Big Hardy Northern Bred Italians. We start all cells and finish them in Big Powerful Queen-right colonies—Nature's Own Way. For in Nature there is no such thing as Queenless Bees. Customers tell us our queens are the best they can get. We know they are good, for there is a third of a century of breeding back of them. That's why we say "They Speak for Themselves."

Price \$1.00 each—Postpaid to your address.

HERMAN McCONNELL & SONS, Robinson, Rt. 2, Ill.

DADANT'S STARLINE HYBRID QUEENS

3-Way Italian Hybrid Combination—High Production
Resistance to the Foulbroods
Uniform Colony performance

For our own reliable 3-Banded Italian queens reduce each item 25 cents.

SERVICE
WICHT APIARIES



Stock of DADANT & SONS
reared under ideal conditions
by WICHT APIARIES

| Quantity | Queens |
|----------|--------|
| 1-24 | \$1.25 |
| 25-99 | 1.15 |
| 100-999 | 1.05 |
| 1000 up | .95 |

Package bees still available.

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408 MILLER
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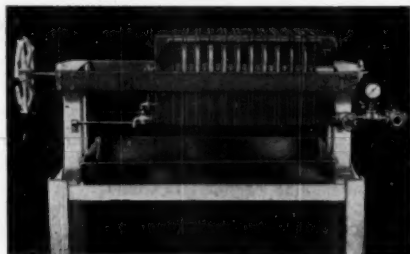
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CELLULO All-Purpose FILTERS

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Helps step up the value
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Most efficient all-purpose honey filter. For all capacities up to 60 pound per minute. Simple, compact, easy to operate. For best results use with Cellulo Filter-Papers. Available in various sizes to fit your production requirement. Write for folder on "The Role of the Honey Bee."

THE CELLULO CO., SANDUSKY, OHIO

Manufacturers of Filters and Filter Papers since 1919



KELLEY—"The Bee Man"

When You Want
QUALITY at LOW COST
Look For This Sign

QUEENS

IMPROVED HYBRID CROSS

These bees appear to be light, 3-banded Italians and are gentle, easy to handle and stay on the combs. However they are of much improved quality and lay frame after frame of solid brood

YOUNG IMPROVED LAYING QUEENS **75c ea.**
BY PREPAID AIR MAIL

LOTS OF 25 AND UP—65 CENTS EACH

WALTER T. KELLEY CO. Box 210, Paducah, Ky.

GOLDEN ITALIAN QUEENS

Heavy layers, large type queens that produce an abundance of lightly banded yellow bees, very good honey gatherers and a pleasure to work with. Add 5c each for air mail. PRICES—50c each postpaid. Marked queens with white dot and clipped. 75c postpaid.

Please send coin or bill for small orders.

NEAL'S APIARIES, Box 46, Hamburg, Louisiana

Treat Your Hives With

CUPRINOL STOPS ROT

Applied by brush, spray or dip to the bare wood, Cuprinol will greatly lengthen the life of your hives by stopping rot. May be painted over. Does not offend bees. At hardware, paint and lumber dealers or direct. \$8.90 gal.; \$1.45 qt. Check or money order. No C.O.D.'s.

CUPRINOL Division, Darworth Inc.
61 Maple St. Simsbury, Conn.

ITALIAN BEES AND QUEENS

Book your orders early, to get pick of dates. Health certificate, and live delivery guaranteed.

PACKAGES WITH QUEENS

| | 2-lb. | 3-lb. Queens |
|-----------|--------|--------------|
| 1 to 48 | \$2.50 | \$3.45 |
| 50 to 100 | 2.40 | 3.35 |
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Send for descriptive circular and read reports from those who have tried them. Untested queens, \$1.00 ea., 12 or more 75c ea.

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American Honey Institute

The new season's honey will soon be ready. Are you going to keep it stored away hoping that the government will buy it at a good price, or are you going to try to sell it on the open market, where you'll dispose of it more quickly, and maintain your contacts in case price supports are dropped?

All of the honey that is produced, and even more, could be sold if beekeepers would use up-to-date methods of marketing. The American Honey Institute will help you do it. The Institute has a wide variety of recipe booklets that help maintain the interest of housewives. In addition, the Honey Institute will send, absolutely free to **all members**, a very informative book written by Mrs. Harriett Grace, Director of the Institute. "Let's Sell Honey" gives all the modern ways to make a profit on your honey. The suggestions in it have really **worked** for beekeepers in the past. They can work for you now! Send for the booklet, if you are a member. If you are not a member, write for details to the American Honey Institute, Madison 3, Wisconsin.

When you are packaging your honey, consider the container. If it doesn't sparkle, it won't sell. Have your package of honey radiate cleanliness. Let it be attractive, in a handy container. Let the label be distinctive—easy-to-read, and easy-to-remember. Don't crowd too much information on it, be sure the colors are bright and clear and the name of your honey is printed distinctly.

After your honey is packaged, consider the various ways to sell it. If you have a roadside stand, and these are good if you live on or near a main highway, you'll need to make it very attractive.

One effective way to insure the success of your roadstand is to advertise it through signs on the highway for several miles ahead. One beekeeper sold all of his honey by having signs that read, "Blank's Honey, 5 miles ahead," then 4 miles, then 3 miles, 2, and 1 mile, and finally the sign, "Here is the place to buy Blank's Honey."

The stand should be clean, and the counter straight and freshly painted.

The honey should be neatly displayed and there should be plenty of it. Give the customer a choice of the size container he wishes. Package your honey in 12-ounce, 1 and 2-lb. containers, as well as in the larger 5-lb. and 10-lb. containers.

Give the customer a little "extra," too . . . one of the pamphlets from the American Honey Institute. Stamp the name of your apiaries on the folder so that the housewife will remember it and tell her friends.

Pamphlets that are especially good during the summer months are "Use Honey for Canning and Preserving," "Jellies and Marmalades," and "Two Sweet Gifts, Citrus Fruits and Honey." The price of all these is \$1.00 for 100 copies.

Capitalize on the particular **flavor** of honey from your apiaries. If you are down south, or out west, then visitors will feel that they are getting a "bit of the Old South or West" itself when they carry home a container of honey. Whatever the flavor, your customers will like it if they know it represents your particular region.

You may wish to sell your honey through more organized channels. If so, you will really need to plan your program before approaching possible customers. How much do you have to sell? If you have a great deal, then you may consider the chain stores in your state, large baking companies, the kitchen of the state university, or public institutions, or state cooperatives. These places need a tremendous amount of honey and are not often interested in the very small producer who cannot fill their needs. Chain stores will want the honey in small size containers, probably one and two-pound jars. Large baking companies and big institutions will want it in large containers for bulk cooking. Furnish these people with a receptacle from which the honey pours easily.

If you have only a small amount of honey available for distribution, you should try the local stores—grocery stores, bakeries, confectioners, ice cream manufacturers, restaurants, meat markets, and prescription pharmacies. The local grocery stores will want it packaged just as

the chain stores do. Confectioners and bakers will appreciate a series of recipes containing honey before they decide to purchase large quantities of it. The American Honey Institute has a booklet which you can furnish them. It's "Honey Specialties for Bakers" and gives large quantity recipes of breads, cakes, cake fillings, icings, flavoring bases for icings and filling, and cooky specialties. The price is just \$15 for 100 copies or 25 cents each. Give one of these to the baker in your area, and get a customer for years to come!

Meat markets can feature honey along with their meat. For instance, they could display a recipe card featuring pancakes and honey, with little pork sausages, or Honey-Glazed Ham. Restaurants could feature honey with hot rolls and butter, or with pancakes or waffles, as well as in cooking itself. Ice cream manufacturers can feature Honey Ice Cream, and you can obtain that formula for them by writing to the Institute.

Pharmacies may use honey in their prescriptions and can recommend it as a "cough soother" when combined with lemon juice.

If you package your honey properly, and set out determined to **sell**, not merely to let it sit without promotion, you **will** sell your honey. Let the American Honey Institute help you have a Happy Honey Harvest!

New Federation Assistant

Miss Beverly E. Brink, a graduate of Montana State University School of Journalism, has accepted a position as assistant in the office of the American Beekeeping Federation at Atlantic, Iowa.

She is an experienced beekeeper and, in addition to routine office work and correspondence, will assist in the preparation of the News Letter and with news items for release to newspapers, magazines, and the radio.

Glenn O. Jones, Secretary.



All Around the Bee Yard

repeated experience so let's hope that things will turn.

I have a letter from a beekeeper who rented his bees in Oklahoma for legume seed (vetch, I think); then trucked the bees into Kansas for alfalfa. He expects some honey from both crops plus a rental in each place of \$5.00 per colony. Not bad. His beekeeping is bound to pay, although I would hate the job of moving his large numbers from location to location, especially at such distances.

Here, in the Midwest, our pollinating chances at present are mostly with red clover and red clover is not a honey plant like the vetch and western alfalfa. Bees on red clover, between flows, get pretty ragged. They have to be forced on the field. If the farmer doesn't harvest right the beekeeper stands a good chance of losing on the deal. If the beekeeper owns the harvesting and spray outfits, he needs lots of capital which most of us don't have.

When you can get a good red clover farmer to agree to harvest right and perhaps spray right the best deal you can get is half the seed above the previous average (the all over U. S. average is a little less than a bushel per acre). The best results, farm to farm, with bees, seem to be three bushels or less. So it is a gamble on both sides. Yet we plan to try it this year. Got to do something.

What to do with those big two-queen colonies in a year like this. Unite them while the flow is scant? Or wait till the flow picks up more? Or do they eat themselves dry anyway? Or do you come out with more honey than singles give every year, regardless of conditions? No standard kind of management exists in beekeeping without a steady location and this is far from such. Will know more about it later.

Speaking of honey true to source, in these river valleys one of the poorest of fall honeys has long been Spanish needle. One producer had

the courage this year to pack Spanish needle carefully and nicely as a source honey and label it as Spanish needle. Surprise—it sold perhaps more quickly than whiter and milder honey; people knew what it was and they wanted it for what it was. One European buyer, visiting this country and seeing and tasting this honey, tried to buy a carload.

Think that we will break down the poorest colonies into nuclei; raise queens for the nuclei; build them up through the summer and fall until we get good five comb sized units, with plenty of stores. These can then be moved onto heaters this fall (two to a hive with division board between; front and back entrance). Four will go with one heater. They could winter over a screen over good strong colonies and do fairly well too. In spring they can be transferred to full hive space, with combs of honey and pollen (if you have any). They should be good, strong, young-queen colonies at flow time.

Seems to me, the better combs we now have, thanks to improved bee comb foundations, and the all around better equipment, set a mirror from which to place new values on the bees themselves. Likely, back yonder, we were not so aware of our own shortcomings or how far from the best our bees were.

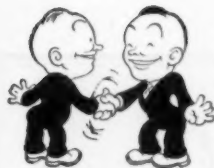
I am continually impressed with the fact that the big colonies we have taught ourselves to expect today throw increasing emphasis on the queen bee and her powers. I am finding myself, each year, more and more critical of queens and knowing more how to evaluate them. As a result I am never fully satisfied even with the best queens available. We have come to that point in our management when we find all that has been done to raise the quality of queens is still not enough. It is fortunate that so many are now working on improvements in breeding and in stock selection. After all, no amount of improvement in hives, or supers, or frames, or combs, will, in themselves do much more than give a touch of finesse to our beekeeping. The crop comes from the loins of the queen.

Dark, cool, day; should be raining but isn't. Clover started out to look fairly good in spots but since has actually receded. Sweet clover is in the off year. Bees are in shape for all there is for them to get. Now, how could one have gone ahead pushing these "buttons" to make it come out so the big colonies and the big year would come together? Trouble with white Dutch right now is surface dryness, mostly due to winds; not high winds altogether but rather steady, day by day air movement that steadily dries the surface.

Personally I may be fortunate in having bees in three distinctly different and well separated locations (some in Illinois, some in Wisconsin, some in Minnesota); but such separation brings more or less dependence on paying others to help. It would be better if all the bees were in the one place where I live, cared for with the least possible expense. Good idea, too, if the home place offers good possibility for crops. Trouble is in this case that is not true. So, if all the bees were here, with low cost, the low crops would offer no solution.

Along with many others, I am in debt for past crops. Either present crops must produce enough to cover current costs and past debts or the other fellow gets the outfit. And what do you do if he doesn't want it? Sometimes I wish I had never seen a honey bee.

It is so easy to get into such a line of thought. The more you dwell on it, the worse things seem to be. C. P. Dadant used to say that when everyone is optimistic and everything is rosy, is the time to prepare for a setback; likewise, when everything is wrong and seasons are poor, is the time to get ready for that turn which will again make things rosy. He lived a long and successful life and developed that philosophy from



Previews and Events

Westchester County, N. Y. Darien, Conn., July 16

The Westchester County Beekeepers' Association will hold its first outdoor meeting of the year on Sunday, July 16 at 2:30 p. m. at the home of Mr. and Mrs. Fortuna Piacentini, 96 Hoyt Street, Darien, Connecticut. There will be a hive demonstration, weather permitting.

Expert beekeepers will be on hand to answer any questions that may arise. Beginners are urged to attend this meeting for the practical experience to be gained at these outdoor gatherings.

A. M. Barnes, Publicity.

Beekeeping Program Farm and Home Week University of Massachusetts, July 21

An interesting and worthwhile meeting for beekeepers is scheduled for Bowditch Lodge on the campus of the University of Massachusetts on July 21.

The speakers include Dr. W. L. Cogshall, Cornell University; Dr. W. E. Dunham, Ohio State University and Dr. E. H. Wheeler, University of Massachusetts. Topics for discussion include Management of Bees, Honey Production, Production and Care of Beeswax, Two-Queen Systems of Management, and Bee Poisoning.

Visitors from nearby states will be welcome. It is hoped that as many of the Massachusetts beekeepers as are interested will attend. The program will start at 10:00 A. M. However, if you can arrive sooner, you will have an opportunity to meet the speakers and discuss matters with them personally.

Illinois State Beekeepers' Association Midsummer Meeting Macon, July 23

The Macon County Beekeeper's Association will sponsor the midsummer meeting of the state association to be held at Chap's Amusement Park, Macon, Ill. on Sunday, July 23. Free tickets for rides will be donated by Mr. Chap for all children who attend with parents. The meeting will start at 10 A. M. and there will be music and entertain-

ment, a basket dinner with free watermelon for those registered with the state secretary, and drawing for door prizes as well as the following program:

10 A. M.—What's News, V. G. Milum, University of Illinois, Master of Ceremonies.

10:15—Get Thee Behind Me Satan, or How Long Will We Take It, Wesley W. Osborn, Hillsboro.

10:30—Baking contest for ladies, sponsored by the Ladies Auxiliary.

10:45—It's Later Than You Think, Carl E. Killion.

11:15 — Dangers of Government Buying, Leonard J. Robins, Mt. Sterling.

1:00—Thirty minutes of music by students of the Stars of Tomorrow Studio.

1:30—What the Institute Is Doing for the Beekeeper, Mrs. Harriett M. Grace, Director American Honey Institute.

2:00—Individual Initiative, E. C. Bessonnet, Donaldsonville, La.

2:30—Meeting Beekeeping Emergencies, M. J. Deyell, Medina, Ohio.

3:15—My Travels Over the World, Walter T. Kelley, Paducah, Ky.

3:45—The Federation Serves the Beekeeper, Glenn O. Jones, Atlantic, Iowa.

4:15—Drawing for door prizes.

Eastern Missouri Beekeepers Gray Summit, August 6

The St. Louis-St. Louis County Beekeepers' Association at its May meeting voted to change the name of the organization to **Eastern Missouri Beekeepers**. An increase in the number of beekeepers from outside St. Louis and St. Louis County joining the association made the change in designation necessary.

August P. Biemann of Gray Summit continues as President; Walter Hyde of St. Louis, Vice-President; Geo. C. Nagel of Maplewood, Secretary-Treasurer. The Executive Committee includes: Alvin R. Campbell of Valley Park; Joseph F. Wiley of Rock Hill; John McAnnar of St. Louis. Maurice C. Nowlin of Gray Summit; Norman R. Mahoney of

Maplewood; and C. R. Criger of Maplewood.

The Annual Summer Field Meet of the organization will be held on Sunday, August 6, in Missouri Botanical Garden Arboretum at Gray Summit, Franklin County, Missouri. Geo. C. Nagel, Sec'y-Treas.

South Carolina Short Course August 16-17

The South Carolina short course in beekeeping will be held in connection with the annual Farm and Home week at Clemson College on August 16 and 17.

E. S. Prevost.

Beekeeping Short Course

Beekeeping Short Course will be conducted at The Pennsylvania State College, August 21 to 25, 1950, and will have a full program both in lecture work and management in the apiary.

Emphasis will be given to swarm control, queen rearing, and the marketing of honey. The College is well equipped to teach and demonstrate the various phases of management involved in the control of diseases and enemies of the honey-bee.

There are six College apiaries, with a total of 140 colonies of bees and 100 queen mating hives, for the students to work with. The laboratory contains the latest in commercial and back lot extracting equipment.

The teaching force will include George Rea, W. W. Clarke, and Edwin J. Anderson.

For further information, write to A. Leland Beam, Director of Short Courses, School of Agriculture, State College, Pennsylvania.

D. L. Hopkins

Mr. D. L. Hopkins, bee inspector of Alameda County, California for a number of years, passed away in February of this year. He left a splendid record of faithfulness and achievement—an important work well done.



The Postscript

Frank C. Pollett

For many years I have been interested in reports of perennial sweet clover which is said to grow in Manchuria. All efforts to find it for the test garden have failed thus far. Twice I have secured seed which was said to be of the perennial variety but in both cases the plants died after flowering in the second year. Such experience causes one to doubt whether there is a true perennial sweet clover and indicates that observers have been mistaken in thinking the biennial form had a longer life.

Since Dr. E. F. Phillips has retired he appears to be giving his undivided attention to beekeeping history and to the promotion of the library of beekeeping at Cornell University. Given a few more years he is likely to bring together the world's most complete collection of literature relating to beekeeping. Through a lifetime association with beekeepers he has accumulated a vast fund of information relating to personalities and events which enables him to judge the value of the material within reach. The value of such a library will increase with the passing of the years.

On May 24, it was my privilege to present the honey bee on television over WOW at Omaha. We had live bees in an observation hive with a microphone directly over it. Thus the bees could be both seen and heard by those who followed the program. The importance of bees in pollination was emphasized along with the story of the place of honey as food and beeswax as an ingredient in more than 100 manufactured products. Reports of good reception as far as fifty miles from the station have been received.

Some most interesting friendships develop by correspondence with persons we have never seen. Such a one for me was with Edward Kellner, a member of the staff of an experiment station in Czechoslovakia. Seed of several promising new plants

came to our test garden from him. When war came there was a long silence and then we learned that he was a refugee in Germany. Now we learn of his death in Austria after suffering many privations. Millions of worthy persons have been displaced by the war and their suffering is little understood here in America so far from the scenes of conflict.

From Berlin comes an interesting letter from the widow of a parson who tells a sad story of the discomforts that the family have suffered. She writes, "Please help us to beg God, that He soon may send us a good peace for the whole world." Those who have lost all because of war and whose children are often hungry are very fearful of another conflict. As one writes, "Another war will see the end of civilization in Europe." It is indeed time for all men of good will to unite in an earnest effort to find better ways to solve national differences.

The Missouri beekeepers' summer meeting, August 6, at the Arboretum at Gray Summit, near St. Louis, is of particular interest because of the fact that extensive experimental work is under way with the mountain mint at that place. The mint is native to the Ozark Mountains and so especially promising for that region. It offers the prospect of a new crop which will provide good bee pasture along with profitable returns for its cultivation once a market is established for the oil which it yields in such abundance.

There has been an amazing interest on the part of experiment stations throughout the world in the new clover, *Trifolium ambiguum*, which came to attention in our test garden. We have sent seed to 44 countries from Austria, Australia, and Argentina through the list to Italy, Ireland, India, and Iraq as well as Yugoslavia and Yucatan. The plant is so vigorous in its growth and so palatable to animals as to offer great promise if

we can secure the proper strain of bacteria to ensure nitrogen fixation. We are frequently surprised by letters from experiment stations of which we had never heard and continue to wonder how they learned of our having this plant.

We have much to learn from European beekeepers who support their organizations so much more generously than we. The Staffordshire Beekeepers' Association, one of the county groups of England, lists about 500 members in its annual report. Mention has previously been made of the memorial to one of their departed members, Joseph Price. His contributions to the press were reprinted under the title, "Price on Beekeeping," for distribution to the members. So large has been the demand that another edition has been printed for sale to the public. Should any of our readers be interested they can secure it by sending a dollar bill to the secretary, J. Hill, 40 Corporation, Stafford, England.

When Frank N. Meyer was making his famous plant explorations in China he wrote of the "honey jujube" as a special delight. The Chinese took the dried jujube fruits and boiled them in sugar water to which honey was added after which they were again spread out to dry. They were often served to foreigners visiting in China in homes and hotels. Meyer suggested that should Americans take to growing jujubes they would find a ready market in the manufacture of confections.

A shrub native to Sand Mountain, Alabama, is the snow wreath, (*Neviusia alabamensis*). A specimen in our test garden came through the winter without injury when many plants from northern regions were badly killed back. It is a highly desirable addition to our list of ornamentals and makes a wonderful show of flowers in late May. There is little indication that it is especially attractive to the bees, but flower lovers will want it when they realize that it is hardy in the North.



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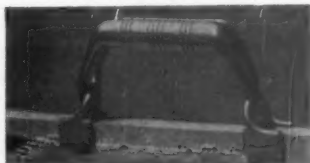
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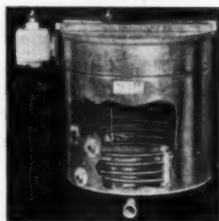


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JAY SMITH



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The New Use of Honey for Children

(Continued from page 320)

readily when it normally should do so. The sympathetic division of the autonomic nervous system is dominant in the child's body. When dominant, this sympathetic division organizes the child's body for fight or flight which is not desirable from the mother's point of view.

If a child is given honey, the blood and tissue calcium begins to increase. This calcium as it increases will unite with the excess phosphorus to form a compound that makes bones, teeth, hair and fingernails. It requires two and one-half hours after taking honey for the blood and tissue calcium to rise in the adult body to the point where a checkup of the blood phosphorus level shows that it has been lowered by uniting with the increased blood and tissue calcium. But the sedative effect of honey on the nervous system of a child may be observed within an hour.

Honey does not require the process of human digestion before it is ready to enter the blood stream. It is in the blood stream within a half hour after it is taken. This explains in part its rapid sedative action on the body.

Bed-wetting at night becomes a problem when it occurs after three years of age. It is one of the most common conditions met with in children and is a very disturbing problem to both family and child. When a physician is asked what may be done to prevent it, he often answers that the passing of time will take care of this fault and the child will outgrow it, which is evidence of the fact that no definite remedy is commonly known. A lessening in the amount of fluid taken after 5 P. M. is generally advised.

The majority of children secure day control of the bladder before they are two years old and most of them are able to remain dry at night a few months later. Bed-wetting may begin after bladder control has been established, but as a rule, it develops as a continuation of the lack of control which is present during infancy. It generally occurs every night and usually once or twice a night. Some children wet the bed within an hour after going to sleep, whereas in other children bed-wetting does not occur until the early morning hours. In the majority of these children the frequent passing of urine during the day is present. As a rule these children are of the race

horse type and are highly sensitive to stimuli such as excitement.

Nervousness is nearly always present in children who wet the bed at night. In addition there may be present nail biting, temper tantrums, thumb-sucking and infantile speech. Treatment of bed-wetting may be divided into two parts, one being preventive treatment and the other active treatment. Preventive treatment is sometimes helpful. This consists in habit training for bladder control. It should be started at about one year of age.

In carrying out the active form of treatment we seek a therapeutic agent that combines a marked ability to attract water and hold it with a sedative effect upon the child's body. This therapeutic agent must be suitable for a long range treatment program and must be harmless to the child. It must be suitable for continued daily use or for use only when needed at certain times. Most important of all it must be acceptable to the child. We find these desirable qualities combined in honey.

At bedtime the child is given one teaspoonful of honey. This will act in two ways. First, it will act as a sedative to the child's nervous system. Second, it will attract and hold fluid in the child's body during the hours of sleeping. By attracting and holding fluid it spares the kidneys with the result that the child does not wet the bed during the night.

As you continue to use honey you will in time learn when to use it. You will begin to recognize conditions that will make it easier for the accident of bed-wetting to occur during the night. Attendance at a children's party with the accompanying excitement and liquid refreshments you may in time recognize as calling for one teaspoonful of honey at bed time to calm down the child's nervous system and to attract and hold moisture in the child's body.

Experiment by omitting the honey at bedtime in order to learn if it is not possible to restore normal bladder control. You will soon begin to recognize the safe and unsafe nights as you study your child and the amount of its fluid intake especially after five o'clock. On what you recognize as safe nights you can try reducing the dose of honey at first and later omitting it. Finally, you may find it possible to keep honey in reserve and to use it only when necessary. You will soon recognize honey as being safe and dependable remedy.

Origin and Evolution of Honey Bee

(Continued from page 319)

intermissa, and some of the domestic races may go back to pre-human origins.

In certain aspects of their basic evolutionary pattern the honey bee shows striking similarities to that two-legged animal man with whom about ten thousand years ago they came to establish such a mutually advantageous alliance. First the honey bee, like man, has spread itself over practically the entire earth as a single species, not splitting up into diverse species as have the other social bees. Like man, the honey bee shows evidence of developing distinct local geographical races. In both honey bee and man the wide distribution appears to be the result of a highly successful social structure adaptable in detail but rigid in its essentials. Except that both involve cooperation, the precise type of society evolved in the two instances is widely different. Human society, we hope, is still capable of modification. The honey bee's society has already achieved all of which it seems capable.

The concluding phase of honey bee evolution occurred about ten thousand years ago when man in his neolithic stage had reached such a level in his social development that he could observe and take advantage of the honey bee's ways. Apiculture spread widely in prehistoric times and within the geographic range of the honey bee, no people, savage or otherwise, are known who have not kept them (Wheeler 1923, p. 91). With the European settlement of America (Benton, p. 18), Australia, and the Pacific, honey bees were transported to those regions likewise, so that today the species is nearly cosmopolitan.

In retrospect, then, I have attempted to show the probable course of evolution of the honey bee from the first winged insect. The line of descent has led through the plant eating Hymenoptera, the parasitic ichneumonflies and the caterpillar-hunting wasp to the solitary bee. From this point we have tried to trace the further development through a series of more simply organized societies to the climax which is the honey bee. One by one we have watched that series of structures and habits being assembled which combine together to make the honey bee so marvelous and so useful to us all.

YORK'S PACKAGE BEES AND QUEENS FOR 1950

QUALITY BRED ITALIANS

The Strain Preferred by Leading Honey
Producers

Prices with Young Laying Queens

| Packages | 2-lb. | 3-lb. | 4-lb. |
|------------|------------|------------|------------|
| 1 to 24 | \$3.25 ea. | \$4.00 ea. | \$4.75 ea. |
| 25 or more | 3.00 ea. | 3.75 ea. | 4.50 ea. |

Young laying queens \$1.00 ea.

Tested \$2.00 ea.

Queenless packages, deduct \$1.00 per pkg.

Order direct from this ad and save time. Book
order now and have bees shipped when wanted.

YORK BEE COMPANY

Jesup, Georgia

(THE UNIVERSAL APIARIES)



Requeen with Three-Way

Hybrid QUEENS

These Breeder Queens are a cross of two lines developed by the government in their breeding project and their virgins are mated to drones of our strain of bees.

We are pleased to offer you these queens and feel you cannot go wrong in requeening your honey-producing colonies with them. We will keep our strain of Italian bees to supply those who do not care for the Hybrids.

When ordering Hybrids allow as much time as possible so your order can be filled without delay.

PRICES

HYBRIDS—Cross No. 1

| | |
|----------|-------------|
| 1 to 10 | \$1.25 each |
| 11 to 25 | 1.15 each |
| 26 up | 1.00 each |

OUR STRAIN

| | |
|---------|-----|
| 1 to 25 | .75 |
| 26 up | .65 |

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Feeding a Larva

Encyclopaedia Britannica Films, Inc., when taking their film, "The Honey Bee," caught this pose of a nurse bee feeding a larva. This larva is probably about four days old, somewhat older than the majority. The worker bee is just ready to deposit food directly onto the larva, about the middle of its length. The larva at the right, extended in the cell, is likely spinning its silken covering in readiness for pupation. In everyday beekeeping work many such minute sights escape most of us. Ever see bees kneading nectar under their tongues? Look at some of the house bees on new comb in a flow. It's quite a sight to see this process.

Michigan Beekeepers' Association

Alma, July 27
Alma College

Benzonia, July 28
Mills Community House

PRESIDENT HOWARD POTTER
Chairman

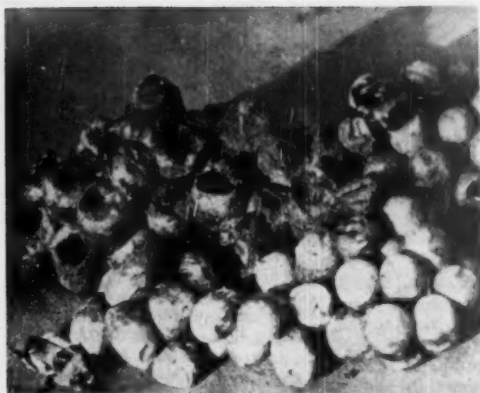
- 10:00—Visiting Hour.
- 11:00—Business Session (meeting of nominating committee).
- 11:30—Michigan Apiary Inspection, D. P. Barrett, Lansing.
- 11:45—Report of Nominating Committee.
- 12:00—Dinner.
- 1:30—Ohio Apiary Inspection, S. E. Bailey, Columbus, Ohio.
- 1:50—Modern Queen Rearing, G. H. Cale, Jr., Dadant & Sons, Hamilton, Illinois.
- 2:10—Honeybees as Pollinators, Dr. Ray Hutson, Head, Dept. Entomology, Michigan State College.
- 2:30—Introduction of New M. S. C. Apiculturist.
- 2:45—Musical Entertainment.
- 3:15—Price Support Program for Honey, Dr. Harold J. Clay, P. M. A., U. S. D. A., Washington, D. C.
- 4:00—Diversified Uses for Honey, Walter Diehnelt, Honey Acres, Menomonee Falls, Wisconsin.
- 4:20—Modern Merchandising Methods, Alan Root, The A. I. Root Co., Medina, Ohio.
- 4:45—Adjournment.

NOTICE—Reservations for dinner at Alma and Benzonia must be received at the association office, 3110 Piper Road, Lansing 15, by July 29, 1950. Meals \$1.50. Reservations made before dead-line will be honored. Others will have to take their chances, and may have to eat elsewhere.

DIRECTIONS—Alma College is three blocks west of turn in US-27A, at the west end of the main street in Alma. The meeting will be held in the Chemistry building, center of campus, on north side of the main street (east side of the short street that goes through campus).

BENZONIA is located at the junction of US-31 and M-115 in Benzie county, near Frankfort, northwest Michigan. Benzonia is divided from the village of Beulah by the railroad, on Crystal Lake.

INVITATION—The Michigan Beekeepers' Association extends an invitation to non-members and out-of-state beekeepers to attend these meetings and to enjoy a pleasant week-end in the scenic north.



Nest of Bumble Bee

Part of the nest of the wild or bumblebee. A rough looking structure, when compared with the workmanship of the honey bee. Cells in the foreground contain sealed brood, those behind are honey cells, and all are constructed of an extremely tough brown paper-like material. Brood shown was hatched out in a hot glass house in July, and a newly emerged bee can be seen feasting on the honey. All bees on leaving their cradle went at once to the honey cells. The honey was found to be of high viscosity, thick and of good body.

John G. Tanner, Ayrshire, Scotland.

Livingston, Wyoming and Allegany Beekeepers' Association, Kanona, N. Y., July 29

A meeting and picnic will be held at the home of Earl H. Austin, Kanona, N. Y., on U. S. Route 15, five miles west of Bath, N. Y., on Saturday, July 29.

Earl H. Austin, Sec'y-Treas.

Ohio Beekeepers' Association, Findlay, July 19-20

The summer meeting of the Ohio Beekeepers' Association will be held at Findlay, Ohio on July 19 and 20, the Hancock County Organization acting as host.

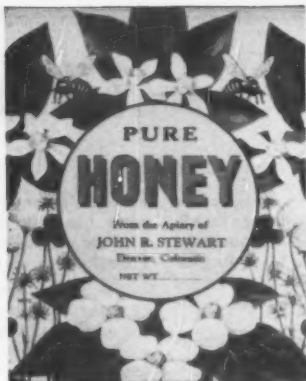
An interesting and instructive program has been planned. Weather conditions permitting, there will be a tour to visit fields of legumes, and orchards in the vicinity where bees have been used for pollination purposes.

Several outstanding authorities in beekeeping have promised to be in attendance.

Chas. A. Reese, Extension Apiarist.

New Texas Association

On June 2 at Paris, Texas, a reorganization meeting of beekeepers of a half-dozen counties of northeast Texas was held. The meeting was called by Erwin Glew, Branch Manager for Dadant & Sons, and Tom Prater, County Agent. Mr. Glew was elected permanent secretary and a steering committee of representatives from each county decided on a later meeting (June 16) for election of officers, formulating a constitution, and determining the name of the association. Pollination and the foulbrood situation in northeast Texas were discussed by F. L. Thomas, State Entomologist, and C. J. Burgin, Chief Apiary Inspector. Counties represented were Grayson, Fannin, Lamar, Delta and Hunt.



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Each label is the exact size and in every way just like the one you may choose. Each label can be pasted on your container so you can see if you like it. We have a new series in color, like the one shown here: five colors, six sizes. Background, pale yellow. "Honey" in red; imprinted in black. Orange and clover blossoms in natural colors. Bees in color. This label is in the catalog.

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HAMILTON, ILLINOIS

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Oval V-grooves

Minimum breakage

We carry a complete line of equipment for raising comb and extracted honey

also

cartons, glass jars, and tin pails

AUGUST LOTZ COMPANY

Boyd, Wisconsin

Manufacturers and dealers in Bee Supplies



The Federation

"Whenever a batter walks to the plate and faces the pitcher, there's a potential home run. Unfortunately, he doesn't always get a hit." But the Federation has not only scored a hit with this pollination business, it has made a home run.

When the Honey and Pollen Plants Committee of the Federation met in Yonkers, New York, in 1944 they had a faint hope that their decision to invite agricultural leaders to future committee meetings would bring about a new conception of the role of the honey bee in agriculture and lead to significant changes in beekeeping practices.

The meetings of the committee held in Atlantic, Iowa; Amherst, Massachusetts; Lincoln, Nebr., and Seattle, Washington were largely scientific and exploratory but they developed the background of sound thinking and equally sound facts that have made the subject of pollination one of the most lively in modern agriculture.

And, in today's agriculture the position of the beekeeper has changed. Instead of holding an occupation which is considered strange and different from any other, he now holds the major key to general agricultural prosperity.

How best to use that key to unlock

Nature's potential stores of legume seeds has been the subject of discussions at many meetings of seed growers and of beekeepers.

Iowa's first June week end found 23 experts in agronomy, entomology, and agricultural engineering at forage seed conferences at Cedar Rapids and Atlantic giving a total of 600 farmers and beekeepers the latest information on forage seed production. These meetings were sponsored by the Cedar Rapids and Atlantic Chambers of Commerce with the cooperation of Iowa State College and several other farm groups and farm agencies.

"If you don't get good pollination, you won't get good seed production," emphasized Dean Floyd Andre of Iowa's College of Agriculture in making the introductory talk at Cedar Rapids.

"You can't produce legume seed without proper pollination," Iowa PMA chairman Hervey Hazen repeated.

Frank Mendell, Iowa State Conservationist, reviewed the growing need for added legumes and grasses in the Soil Conservation program to protect our natural resources of soil and water.

Dr. W. M. Myers, who has charge

of the work with forage crops and diseases at the Beltsville Research Center of USDA, stressed the need for a 50 per cent increase in legume and grass seeds to permit the conversion of 28 million acres from cultivated crops to forage crops. Such, he said, is the goal of USDA in their program to establish for agriculture a pattern of operation that will combine the best use of the soil and a satisfactory return from that usage.

There was constant reference to low per-acre yields of legume seed crops. Present yields are but a small fraction of the potential of 50 bushels of alfalfa seed per acre, 12 to 15 bushels of red clover, and upward to 35 bushels of alsike clover seed per acre, as reported by Dr. W. E. Dunham, of Ohio State University, in his talk on pollination.

Pollination is but one of many important factors in the production of legume seeds, but it is of such prime importance that many beekeepers are rapidly changing their operations and centering attention on pollination rather than on honey production. And the return from pollination service can be highly satisfactory if it has the same skillful operation and attention to detail as is required to produce a crop of honey.

Flavor Modification of Low-Grade Honey

In a study made by Jonathan W. White and George P. Walton at the Eastern Regional Research Laboratory, Philadelphia, Pa. (report AIC 272, Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. D. A.) research was undertaken to find means for modifying dark colored and strong flavored honey for better utilization by industries. Nearly 200 small-scale processing trials were made, the majority concerned with production of a sirup with as much honey character as possible, with the balance concerned with production of a completely decaffeinated honey sirup.

The publication describes in detail methods and materials used, results obtained, and costs of processing. Exact procedures depend somewhat on the honey type, and most large honey packing plants are equipped to perform such processing. Difficulties encountered are principally economic, including cost of special equipment, cost of processing, and marketing in competition with other low cost sweetening agents.

Although decaffeinated products are similar to original honeys in physical and chemical make-up, they are simply sweet in flavor, having no honey flavor, and may no longer be termed "honey." The authors suggest that a description, subject to approval

of the Food and Drug Administration, such as "refined honey sirup" or "decaffeinated honey" might be used.

The decaffeinated honey product is a perfectly wholesome sweet, containing the original honey sugars. Decaffeinated honey should answer any purpose served by other wholesome sweetening agents. Increased use of such a product might be achieved because of special properties not possessed by other sweetening agents, such as the higher content of levulose and dextrose.

A new crystallized fruit spread was developed during the research. It is made from fruit, fruit juice, and decaffeinated honey sirup, concentrated to honey density and finely crystallized. Best results were obtained by using decaffeinated honey sirup rather than other sweetening.



Crop and Market

M. G. Dadant

For our July report we asked the following questions:

1. How is the crop so far compared to 1949?
2. Prospects for balance of season?
4. Any jobbing offers on new 1950 crop? Price?
4. Any job offers on new 1950 crop? Price?

At the time that the reports were sent in, the northern half of the United States had produced practically no honey so that there was no comparison as to production with the 1949 year. California and the far Southwest report crops from orange blossoms as being from 20 to 70 pounds per colony with considerable variation in different locations. The prospects for honey later on are from poor to normal, most of the area being short of moisture. Good white honey is being sold as high as 11½ cents with darker grades selling at lower figures. Along the southern rim of states beginning with New Mexico through Texas and over to Florida and as far north as Virginia considerable honey already has been harvested. The crop in Texas appears to be very good so far and this is especially true in the belt running from Oklahoma through northern Texas and into Arkansas, western Kentucky and Tennessee. Just what the final result will be as to crop in those states will depend on nectar secretion from now on, but not enough honey has been sold to tell what the price is going to be. The problem of selling in those states where bulk comb honey is being produced is not as acute as where extracted alone is harvested.

Along the east coast beginning in Florida and up into Virginia the crop has run generally better than a year ago with some reporters indicating 150% of 1949. There is some carry over by the larger producers but generally speaking the 1949 crop has moved out of the way and the demand for bulk comb, which is largely produced in that area, is apparently good with 1949 prices prevailing.

The balance of the U. S. which includes the intermountain states, the Midwest and our northern and north-eastern states, is at least two weeks behind schedule with very few reporters able to give an idea as to what the comparative yield will be. So far the yield is short but in general, prospects are very good and there is comparatively little honey in the producers' hands. One of the largest bottlers indicates that they have less honey on hand now than for the last three years, which would mean that honey has moved fairly well at least.

In some of these states the 1949 drought has reduced prospects. Northern New York was badly hurt and prospects this year are not too good as clovers were killed and it will take another year before they can be established. However, throughout the Middle West beginning in western Nebraska and Kansas and eastward there has been plenty of rain and honey plants are in excellent condition. The weather has been cold, however, throughout this territory as well as farther south and in the northern states. Although bees have made enough to keep them going, the honey crop has been slow in starting but there should be a very good crop if proper weather comes along. Here at Hamilton we have had constant rain for almost a week and farmers are becoming discouraged as they are unable to get into the fields to till their crops. This will mean a good fall crop in the corn belt where these rains have occurred and of course means the spreading of clover, especially white Dutch, as well as other honey producing plants.

Throughout the U. S. A. the number of reporters indicating that they have a 1949 carry over is surprisingly small. It is only in the large producing areas such as California, Florida, and some intermountain states that some honey is

being carried over because of lack of demand or possibly held, waiting for government price support. Price support is of course "in the books" but nothing definite has as yet (June 19) been heard from the government, although an early announcement is anticipated.

One big help in the honey picture is the fact that much more section comb honey and considerably more bulk comb honey is being produced. This of course has been true in the Southeast and the South for many years but even northern producers are beginning to turn toward bulk comb honey production again.

In Canada there is apparently a considerable carry over especially in the western provinces and this is commented on by the editor of the Western Canada Beekeeper as being quite serious as there was apparently some possibility of the government turning back some million pounds of honey which has been held to stimulate prices. Apparently, however, this has been headed off and there is a strong plea for a definite government advertising campaign to help the consumption of honey.

Generally speaking, reports the country over would show at least a normal and perhaps a little better crop than in 1949 with honey held in less quantity than a year ago, thus encouraging the beekeeper that his crop may be sold at a fair price.

There is no doubt, however, that a big effort should be made by every producer of honey to see to it that every demand for honey is met. If a real effort is made by every individual beekeeper to dispose of at least a part of his crop himself, it will be bound to help tremendously in relieving the "glut" that has beset the industry for several years.

The American Beekeeping Federation is making a strenuous effort to get such a message across to producers everywhere and there is no doubt that the industry should help itself so as not to have to look for long for help from the government to dispose of its product.

Honey Wanted— Cars and less than
our TOP PRICES
C. W. AEPPLER CO., OCONOMOWOC, WIS.

Have You Tried ASHURST "SUREWAY" CAGES?

Read what Mr. Ivan B. See of Bergton, Va., has to say:

"In response to the samples of Ashurst 'Sureway' Cages you sent me last season to try out, I wish to state that I used these release cages all of them you sent me, and must say they are far superior to any system I have used in my thirty-five years in the honey producing trade, so I am enclosing an order for more cages."

Signed—Ivan B. See

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Puett's

Prices for 1950

| | 1 to 11 | 12 up |
|-----------------------|---------|--------|
| 2-lb. pkg. with queen | \$3.00 | \$2.75 |
| 3-lb. pkg. with queen | 3.65 | 3.40 |
| 4-lb. pkg. with queen | 4.30 | 4.05 |
| Queens | .95 | .90 |

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| Lots of | | 2-lb. | 3-lb. | 4-lb. | 5-lb. |
| 1- 24 | \$.60 | \$2.75 | \$3.50 | \$4.25 | \$5.00 |
| 25- 99 | .55 | 2.50 | 3.25 | 4.00 | 4.75 |
| 100 up | .50 | 2.25 | 3.00 | 3.75 | 4.50 |

Add 75c to above prices for Tested Queens
For Queenless Package Deduct Price of Queen
Packages F. O. B. Shipping Point
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(No Extra Cost)

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Your local merchant is your best customer as he is receiving requests every day for this delicacy packaged by the bees themselves.

Whether you plan on a few supers this season, or want to equip your entire apiary for SECTION COMB HONEY we have the necessary equipment, including Dadant's Thin Surplus for Sections.

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A PACKAGE OF 100—A CARLOAD

MARSHFIELD MFG. CO.
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(The heart of Wisconsin's Dairyland)
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Round jars, square jars and modernistic jars as pictured are all stocked in carload lots for shipment the same day your order is received.

5% discount on tin and glass containers in lots of **\$ 50.00**

10% discount on tin and glass containers in lots of **\$100.00**

If you wear glasses you need one of our dry brows to keep the sweat off your glasses. We list many such items for your convenience not found in other catalogues.

The Walter T. Kelley Co. Box 210 **Paducah, Ky.**

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. . Well, your labels are talking continuously to your prospective customers when you are not there to do the selling job yourself.

. . *and the more attractive the label, the better job it does*

This year give your honey a break—
Give it a label that can really holler!

Ask your Root dealer for your free label catalog

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THE A. I. ROOT CO.

MEDINA, OHIO

July 1950

The following announcement of the price support program for honey has just been received from Washington, D. C. Inasmuch as it came too late to include in the printed magazine, we are inserting it in the American Bee Journal as it is being mailed to you. Grade B, as referred to in the announcement, is extracted honey of any color, shall be fairly clean (as free from foreign material as honey strained through bolting cloth of 23 meshes per inch), having a moisture content of not more than 18.6 per cent, and shall be free from damage caused by turbidity, overheating, fermentation, honeydew, objectionable flavor or odor, or other means. In brief, it includes all marketable honey inasmuch as the next grade lower is "Off-Grade."

The Production and Marketing Administration of the United States Department of Agriculture announced today, June 30, 1950, that the price which beekeepers receive for honey will be supported at nine cents (9 cents) per pound during the 1950 marketing season which began April 1, 1950. Under the provisions of the Agricultural Act of 1949, price support on honey is mandatory for the first time at levels ranging from sixty per cent to ninety per cent (60% to 90%) of the parity price. The support price applies to extracted honey produced in the continental United States, packed in clean, sound tin containers of sixty pound (60 pound) net capacity equal to or better than U. S. Grade B and delivered to the packer's plant. Department officials explained that the nine cent figure is sixty per cent of parity as of April 1, 1950. In the 1949 season, prices to beekeepers were mostly in the range of seven to twelve cents per pound for honey sold in 60-pound containers. Honey will be bought from packers who pay not less than the applicable support price for all eligible honey acquired from beekeepers after entering into agreement to that effect with the Commodity Credit Corporation. Prices paid to packers

will include allowances for handling costs. Contract forms will be mailed soon to all commercial honey packers on record. Forms can also be secured in the near future from the following P. M. A. Commodity Credit offices.

1. Atlanta 3, Georgia, 449 West Peach St. N. W. Includes Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

2. Chicago 5, Illinois, 623 South Wabash Ave. Includes Illinois, Indiana, Iowa, Michigan, and Ohio.

3. Dallas 2, Texas, 1114 Commerce St. Includes Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

4. Kansas City 6, Missouri, Postal Bldg., 802 Delaware Ave. Includes Colorado, Kansas, Missouri, Nebraska, and Wyoming.

5. Minneapolis 1, Minnesota, 328 McKnight Bldg., Includes Minnesota, Montana, North Dakota, South Dakota, and Wisconsin.

6. New York 4, N. Y., 67 Broad St. Includes all of New England, Delaware, Maryland, New Jersey, New York, Pennsylvania, and West Virginia.

7. Portland 5, Oregon, 515 South 10th Ave. Includes Idaho, Washington, and Oregon.

8. San Francisco 2, California, 335 Fell St. Includes California, Nevada, and Utah.

Honey also will be supported in barrels at eight and three-quarter cents (8-3/4 cents) per pound. Honey having a moisture content from 18.6% to 20% will be supported also but at a slight reduction in price.